

EXPERT PANELS: REGULATING WATER COMPANIES IN DEVELOPING COUNTRIES

Chris Shugart
Tony Ballance

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Chris Shugart (chris@shgrt.com) is an independent consultant specialising in transaction work, project finance, economic regulation and sector reform related to private participation in infrastructure, especially water and wastewater services. He was a Senior Banker at the EBRD from 1998 to 2002.

Tony Ballance (tonyballance@hotmail.com) is a consultant in the utilities sector specialising in the regulation of the water sector in developed and developing countries. He was formerly the Chief Economist at Ofwat, the water regulator for England & Wales, and has acted as an independent expert on a number of international water contract re-negotiations. He will shortly join Severn Trent Water as their Director of Regulation.

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ANNEX 1. EXAMPLE OF PROCEDURE FOR APPOINTING THREE EXPERTS

REFERENCES

ABBREVIATIONS AND ACRONYMS

ADR	alternative dispute resolution
BOT	build-operate-transfer
capex	capital expenditures
IFI	international financial institution
O&M	operation and maintenance
opex	operating expenditures (including maintenance and ordinary repairs)
PFI	Private Finance Initiative (a British program)
PPP	public private partnership
PSP	private sector participation

The word ‘**water**’ in ‘water system’, ‘water services’, ‘water tariffs’, and similar expressions, refers to water *and wastewater*, unless the context indicates otherwise.

The term ‘**conventional arbitration**’ is used in a number of places in the report. This is used as a shorthand to mean forms of modern commercial arbitration identical with or similar to the models typically used for *international commercial arbitration* – but regardless of whether the parties (or their shareholders) are in fact of different nationalities. American readers should note that ‘conventional arbitration’, as we are using the term, is to be distinguished from the common model of U.S. *domestic* arbitration for small commercial disputes (e.g. as conducted under the auspices of the American Arbitration Association), which stresses informality and compromise.

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EXECUTIVE SUMMARY

The idea of using contracts without regulators (sometimes called ‘regulation by contract’) to regulate private sector water and wastewater services faces its greatest difficulty when confronted with comprehensive *periodic tariff reviews*, which require impartiality, a high level of expertise, and discretionary professional judgment. This has been one of the most important reasons for promoting the creation of independent regulatory agencies in the water sector in developing countries. For a number of reasons, however, establishing sound conventional regulatory agencies for water service providers in developing countries has not proved to be an easy task. Continuing political influence and arbitrary decision-making discourage operators and investors.

One way to tackle the problem of price reviews without recourse to a conventional utility regulator would be to use an independent non-governmental *expert panel* instead, empowered to take binding decisions – subject, perhaps, to limited-scope appeal.

There is considerable experience to build on. ‘Expert determination’ of issues has been successfully used in many different contexts – e.g. construction contracts, banking, insolvency, commodity trading – and in different legal systems. One form, statutory ‘adjudication’, has been compulsory in Great Britain for almost all construction contracts since 1998.

There are now a number of examples of the use of broadly similar ‘third party intervenors’ in long-term water concession contracts – e.g. Bucharest concession (expert panel for tariff adjustments); Chile (expert panel for appeals from regulator’s decision); Sofia concession (dispute review board for all disputes). An interesting new development is the London Underground ‘PPP Arbiter’, responsible for deciding periodic price reviews if the parties cannot agree, although in this case the Arbiter is appointed by the government, not the parties.

What is needed now is a mechanism that pulls together the lessons from all of these experiences – including conventional utility regulation – to create a suitable alternative method for comprehensive price reviews in water and wastewater services in developing countries.

Careful design is essential. The method of appointing the expert panel to ensure true independence and high competence, the requirements for information and reporting from the company, and the principles and rules governing the periodic review must be specified in detail in the contract itself or, perhaps even better, in the enabling law and regulations.

An important aim is to carefully constrain the discretion given to the expert panel. Setting service standards, tariff *structures*, and the like should be the responsibility of the relevant public authority (say, a municipal department or semi-autonomous unit), not the expert panel. In effect, the panel’s task is to ensure that tariffs are set at

a level that will be sufficient to enable the company to meet, on a sustainable basis, the specified service standards according to the specified time profile – whatever these may be. If the resulting tariffs are considered to be too high, the public authority can reduce the stringency of the requirements it sets, but it cannot simply *order* tariffs to be lowered. The major sort of discretion to be handled by the expert panel will therefore focus on estimating future ‘efficient costs’ (or something similar) – a complex issue to be sure, but a substantially *technical* one, not involving policy-related judgments.

There are a number of possible reasons why expert panels have not been used more often for this purpose. (It is true that in some countries, there may be legal problems with this method, but in many countries they are not insuperable.) One reason may be that some governments are resistant to give up their discretionary power to decide tariffs on political grounds, something they can often continue to do through informal influence over regulatory bodies. Using expert panels could bring more independence to regulatory decisions than using the Ofwat-style solution, where the scope for political interference is still great. Willingness to be bound by the decisions of a non-governmental expert body could therefore serve as a strong signal of a government’s commitment to good principles of regulation.

The present paper is only the beginning of a process to develop the expert panel idea into a fully workable mechanism. What are needed as next steps are the following:

- Building on past experience and new thinking, develop a complete set of rules and guidelines – both substantive and procedural – for the setting up of an expert panel and the conduct of a comprehensive price review.
- Select – or create – an appropriate appointing authority and pre-qualify the experts for the first expert panels.
- Find a country or several cities that would like to try out the mechanism on a pilot basis.

1. INTRODUCTION

The broad objective of this paper is to promote greater care in the design of regulatory regimes for water and wastewater services in developing countries, where misspecification of the regime can deter investors, provoke public dissatisfaction, increase prices for consumers and impede improved services – including services for the poor.

The Millennium Development Goals, adopted in 2000, envisage reducing by half the proportion of people without sustainable access to safe drinking water and basic sanitation services by 2015. Estimates of the cost of additional investments in water and wastewater infrastructure, beyond present levels, needed to reach these goals range from US\$10 to 30 billion per year (see Smets 2004). Regardless of the accuracy of these estimates and the appropriateness of the specific targets, there is no doubt that the sector badly needs additional investments on an enormous scale. One overarching objective of good utility regulation is to ensure that investments are used effectively in a way that maximises their benefits to consumers and to provide a framework that induces public and private sources to finance investment projects.

This paper sets out how expert panels might provide a solution to the key problem faced by many long-term contracts involving private sector participation (PSP) – namely, how to carry out the periodic resetting of tariffs in a way that is sound in terms of public policy objectives, while instilling confidence in operators and investors.

The paper is organised as follows:

- **Section 2** sets the context by looking at why simple ‘regulation by contract’ is not likely to work well for long-term water utility concessions and why a conventional utility regulator might not be the only solution – and in fact might not be the preferred solution. The section then outlines the criteria that the paper will use to evaluate different regulatory regimes.
- **Section 3** introduces the proposed solution of the expert panel, compares it with conventional arbitration, and discusses how it would fit in with other dispute handling mechanisms in the PSP contract.
- **Section 4**, the core of the paper, goes into more detail about how the expert panel would work, looking at the governing rules and where they would be located, how the panel members would be selected, how the tariff review would be conducted and how the panel’s decisions would be enforced and appealed. The section also briefly addresses the question of how the costs of the panel would compare with the costs of using a conventional regulator.
- **Section 5** provides supporting background by examining the use of similar mechanisms in water utility concessions and other contexts, including expert determination, dispute review boards in the construction industry and the London Underground ‘PPP Arbiter’.

- **Section 6** addresses some of the objections that might be raised against the idea of using expert panels in the manner envisaged in the paper. Several objections focus on the contention that regulation is a broader activity than would be permitted by the mandate of the expert panel and would necessarily involve policy-related issues to some extent. The paper argues that the limited mandate of the panel is a virtue rather than a weakness. This section also addresses several arguments about the legal validity of the expert panel arrangements. The section concludes by evaluating the expert panel proposal in the light of the criteria outlined in Section 2.
- **Section 7** suggests some reasons why expert panels have not been used more often in the way envisaged in the paper.
- **Section 8** places the proposal in a larger economic perspective and then looks ahead to what the next steps might be to develop the skeletal ideas in the paper and implement them in a real setting.

2. THE NEED FOR REGULATION

2.1 The regulation of water and wastewater services

In a broad sense, utility regulation refers to public sector control over utility service providers so that their conduct is channelled to achieve public sector objectives. In a narrower sense, regulation mainly involves the setting of service standards and user charges – e.g. tariffs – and perhaps some control of a more direct sort over investment levels.

If water service providers were subject to the discipline of the competitive market, the need for regulation of *conduct* would be greatly reduced or eliminated. Water service providers for the most part, however, are expected to remain vertically integrated natural monopolies for the foreseeable future – at least in developing countries.¹ Direct regulation of industry conduct is therefore necessary.

The activity of regulation is located between broad policy making and service delivery. Since the objectives that drive service providers (i.e. that drive their management and shareholders) may not be entirely the same as those sought by policy makers, mechanisms have to be established so that service providers will implement public policy goals – including high quality service and increased efficiency in investment and operations. But because service providers have information that outsiders do not have (information asymmetry), the methods adopted have to *induce* them to realise social goals by playing on their own incentives, rather than simply ordering them about in a command-and-control fashion.

Regulation can be seen, therefore, as the means of converting broad policy into effective service delivery. Without good regulation of service providers, the best of policies will fail to be implemented.

In the past two decades, water sector reforms have been initiated in many developing and transition countries. The separation of policy making from service delivery has been

¹ See Ballance and Taylor (2005) for a discussion of the feasibility of competition in water services.

emphasised, as have efforts to clarify the roles of different players in the sector. In response to the perceived failure of attempts to reform publicly run water and wastewater services, efforts were intensified in the 1990s to promote various forms of private sector participation (PSP).

Even though reports show that real progress has been made in many cases of PSP, these arrangements, which have generally included foreign private sector interests, have faced many problems. They were often designed and awarded in great haste and with limited information. Bidding procedures similar to those for relatively 'complete' works contracts were often used for highly incomplete PSP contracts, resulting in low-balling or the 'winner's curse'. The problems that have arisen in the first few years typically involve increased tariffs (or other consumer charges) – and sometimes macroeconomic shocks. Issues have become highly politicized and, in some cases, public protests have occurred. Endless wrangling and contract renegotiations have become common occurrences, in many cases apparently to the disadvantage of the public sector. Some public authorities have blatantly reneged on their contractual commitments.

Not all of the problems encountered by PSP arrangements in the water services sector result from deficient regulation. In many developing countries, raising tariffs to cost-reflective levels appears to be politically unacceptable, at least in the short to medium term, and if strong underlying political forces are intent on squeezing all profits from foreign-dominated firms, or if the service provider is poorly governed or technically incompetent, there may be nothing that better regulation, per se, can do about it. Nevertheless, the difficulties faced by PSP projects in the past decade result to some degree from a failure of the rules, organisations and processes involved in regulation.

Although the term 'regulation' can be applied to publicly as well as privately controlled service providers, this paper focuses on a solution that has particular relevance to *private sector* water companies. There is no reason, however, why a country could not use the system for publicly owned water companies, especially when they operate under strong principles of corporate autonomy.

Summary (Section 2.1)

- As natural monopoly services (for the most part), water and wastewater services need to be regulated. *Regulation* is the key link between high-level policy making and service delivery.
- In the past two decades, water sector reforms have been initiated in many developing and transition countries. Private sector participation (PSP) has been introduced in many systems.
- PSP in water services has faced many difficulties, leading to questions about its suitability as a solution to the problems faced by the sector. Many of the problems can be attributed to deficiencies in regulation, broadly conceived.

2.2 PSP contracts without regulators?

The regulation of water services can be organised in a number of ways. According to one view, water services can be regulated entirely by rules contained in a concession contract, without any need for a specialised regulator. This is the publicly stated view of the larger

water companies involved in the international water PSP market.² This approach is sometimes referred to as ‘regulation by contract’. The question of whether and under what conditions this is feasible is one central theme of this paper. To make good sense of the question, we have to start by clarifying some of the terms we will use. (Readers who are not interested in these details can skip to the summary box on page 9 without loss of continuity.)

The term ‘regulation by contract’ can be confusing since it is used in a number of different ways in recent writings. In this paper, it refers to the fact that the details of the arrangement are based on a formal *agreement* between the two parties (rather than being imposed unilaterally by law or by a discretionary regulator) and that the organisations with responsibility for applying and adjudicating the regulatory rules are those typically used for commercial *contracts* – i.e. courts or arbitrators – and do not include a statutory regulator. This last point is the most important in the present context: in pure regulation by contract, the organisations involved in adjudication do not consist of specialised regulatory bodies.³

Another aspect of regulation by contract – one that follows from the absence of a specialised regulator – concerns the type of *rules* contained in the contract. In order to understand this more fully it is necessary to look for a moment at different kinds of rules. One way of classifying rules is by the degree to which the rules, when applied to the facts of a case, determine the outcome in a straightforward, mechanical way without the adjudicator needing to use discretionary judgement. We will use the term ‘sharp rules’, ‘precise rules’ or ‘bright-line rules’ (without any distinction intended between these expressions) to refer to rules near one end of this continuum.⁴ An example of a very precise rule would be one that says that the water tariff in any year will be the tariff in the immediately preceding year multiplied by the percentage change in the official consumer price index during that year. There may be some circumstances in which the application of the rule would require discretionary judgement (e.g. suppose that the particular price index is discontinued and two new ones take its place), but this would be unusual and even then the scope of any disagreement and the degree of regulatory discretion required to fix the problem is narrow.

At the other end of the continuum are rules that we will call *principles*. These are vaguer statements that require the adjudicator to use discretion in interpreting and applying them.⁵ A

² Veolia (one of the two major players in the international water market), for example, in their publication *Municipal Water Services – How to take up the challenge?*, has stated that where there is a contract in place, they do not want an explicit regulatory body. In their view, the contract reflects ‘a balanced sharing of responsibilities between the public authority and the private operator ...’. Veolia go on to say that where a ‘concession regulatory authority’ is established, its role and functions should be strictly limited. Suez in their publication *Bridging the Water Divide* express similar views.

³ The term ‘adjudicator’, as used in this paper, refers to any entity that is responsible for deciding a dispute or issue involving the application of rules in a way that is *binding* on the relevant party, as opposed to simply giving advice or recommendations that may or may not be followed. The fact that the decision may be appealed to a higher level (i.e. that it is not *final*) does not prevent the issuer of the decision from being called an adjudicator. Courts, arbitrators, and most regulatory bodies would be considered to be adjudicators in this sense.

⁴ The appropriate definition must be behavioural, not directly a function of the words used to express the rule. If any two suitably trained, reasonable adjudicators would reach *exactly* the same outcome when applying the rule to the same set of facts, then – in the way we are using the terms – the rule can be said to be ideally sharp or precise.

⁵ We are not referring only (or especially) to cases in which the decision maker is *explicitly* allowed to use her discretion – e.g. a rule that qualifies the criterion for taking a decision with the words ‘in the opinion of the

rule that directs a regulator to ‘balance the interests of all stakeholders’ is an extreme instance of a *principle*, as opposed to a precise rule. Another example is a rule that instructs the regulator to set tariffs at a level that ‘would allow a reasonably efficient company to cover its costs and finance its activities’. There is no sharp line between precise rules and principles: they exist along a continuum.

Some authors use ‘rules’ in a more limited way to mean just *precise rules* (as in ‘rule-based decision making’).⁶ In general, we will use the term ‘rule’ in a general sense to refer to the whole gamut, from very sharp rules to broad principles.⁷ This saves us from having to say ‘rules and principles’ whenever we want to refer to the whole set.

The degree of precision of the regulatory rules relates to our discussion of regulation by contract in the following way. If the organisations used to interpret and adjudicate the rules are courts or arbitral tribunals, the rules have to be fairly precise and cannot leave a great deal of discretion to the adjudicator. The kinds of principles used for the most part should be limited to those used in ordinary commercial contracts – principles that contract adjudicators are trained to handle, such as ‘best endeavours’, ‘reasonableness’ (for narrow issues), ‘materiality’, ‘negligence’, and so on.

A fundamental idea in this paper is that simple regulation by contract is feasible for PSP arrangements to the extent that the needed regulatory rules can be set out satisfactorily in terms of a set of (i) precise rules and (ii) principles of the kind typically encountered in ordinary commercial contracts.⁸

A set of precise rules (plus ordinary contract principles⁹) can function well to regulate some kinds of services – e.g. a BOT contract for a wastewater treatment plant or a five-year management contract for a water utility. A set of precise rules can also work well for *some* of the adjustments that need to be carried out in a typical long-term concession contract for an

adjudicator’. The rule in question may be expressed in objective terms. The point is that, *in fact*, the adjudicator must use discretion because there is no one answer that would be agreed by all competent adjudicators.

⁶ These two ideal types of rule go by different names. The law & economics literature often refers to them as ‘rules’ versus ‘standards’ (see e.g. Kaplow 1992). One writer speaks of ‘crystalline rules’ versus ‘muddy rules.’ Other terms are used more loosely in policy literature. ‘Rigid’ versus ‘flexible’ is not quite right because some razor-sharp rules can be flexible in a sense (e.g. a rule that adjusts the price according to a precise but continuous function, or a rule divided into 10 different sub-rules each of which applies when certain variables take certain values). ‘Specific’ versus ‘general’ misses the mark because it is ambiguous: e.g. a precise rule that applies to all customers instead of applying to just one class of customers can rightly be referred to as a ‘general’ rule.

⁷ We are not alone in using the term in this way. See e.g. Twining and Miers (1999) and Black (1997). As Twining and Miers (1999: 126) point out, making distinctions between types of rules (broadly conceived) ‘would introduce an artificial and premature rigidity into the discussion. Levels of generality, precision and prescriptive force are all matters of degree.’

⁸ This statement – and others like it in this paper – could also be expressed using the terminology of ‘complete’ and ‘incomplete contracts’. We avoid this terminology in the paper because it can be confusing: first, we sometimes want to distinguish *contracts* in the legal sense from administrative rules (and ‘contractual incompleteness’, despite its name, is often used in a way that could apply to both); second, the academic literature on ‘incomplete contracts’ uses the term to mean several different things, and there is no need to enter into that discussion for purposes of the present paper.

⁹ We will leave this parenthetical addition implicit in further discussion of these aspects below.

entire water services system – for example, tariff indexation and incremental tariff adjustments in response to narrowly specified events.

The more uncertainty there is, however, about the inputs for the adjudication process (i.e. the specification of all needed inputs and the values they will take), the more difficult it will be to include a set of precise rules in the contract in advance that can deal adequately with all contingencies.¹⁰ In that case, discretionary *principles* of a more regulatory nature will have to be used. But ordinary regulation by contract does not work well if a large amount of specialised discretion will necessarily be involved in the adjudication since ordinary contractual adjudicators do not have the training and experience to deal with this. This does not provide enough certainty of outcome to convince investors – especially international operators – that their investments will be adequately protected.

It is now generally agreed that it is infeasible for most, if not all, long-term concession arrangements covering an entire water service system to function well for many years just on the basis of adjustment clauses that deal with specific events, such as changes in law. It would be very difficult – if not impossible – to devise a mechanical adjustment formula (one incorporating price indexation and perhaps a price-cap-type ‘X’ factor) that could closely track changes in efficient costs for an entire water and wastewater system over ten or more years.¹¹ Even in the U.K. water sector, where the process of setting price caps has been in operation for over 15 years and the data is of a comparatively very high quality, this is arguably not feasible. It is therefore hard to avoid the conclusion that, for most water systems, a comprehensive price review of some kind will be needed to reset prices every few years, based on some notion (suitably defined) of what the company’s costs ‘should’ be.

The idea of using contracts without regulators to regulate water services therefore faces its greatest challenge – or obstacle, depending on your point of view – when confronted with *comprehensive price reviews*.

Before moving on to consider the consequences of this for regulation, we should mention one possible way of rescuing *pure* regulation by contract in the context of water services. According to one view, sometimes expressed by operators, the needed periodic tariff adjustments can be determined by the parties *renegotiating* the price terms of the contract, and related things such as the indexation formula, every few years. Historically, the classic French water concession arrangements were to a large extent governed by this approach.¹²

¹⁰ The philosopher of law, H.L.A. Hart, expressed it aptly in a famous passage: ‘If the world in which we live were characterised only by a finite number of features, and these together with all the modes in which they could combine were known to us, then provision could be made in advance for every possibility. We could make rules, the application of which to particular cases never called for a further choice. Everything could be known, and for everything, since it could be known, something could be done and specified in advance by rule. This would be a world fit for “mechanical” jurisprudence.’ (Quoted from Hart’s *The Concept of Law* in Twining and Miers (1999: 181)).

¹¹ Some would argue that it might be possible to forgo comprehensive periodic reviews in some cases – e.g. where service coverage is already very high, city demographics are stable and plant capacity is sufficient for the foreseeable future. Cf. the more general discussion in Littlechild (2002).

¹² See Shugart (1998), chapter 3. The traditional French concession system depended for its stable functioning on other factors, too, in addition to periodic renegotiation – including background rules contained in French administrative law, a specialised administrative court system and a culture of deference to the concessionaire’s authority.

When a contract is renegotiated, something beyond the contract has to stabilise the relationship and the renegotiation process; the contractual rules themselves are not sufficient because they are in the process of being modified. Economists and legal scholars have given considerable attention in the past decade to *relational contracts*. Although there is no one accepted definition of the term, a broad definition might be the following: A contract is *relational* insofar as it is incomplete in important ways and the parties apparently intended that extra-legal *norms*, such as deference, fair play, professional integrity, trust, and reciprocity, or other extra-legal *influences*, such as reputation or other aspects of their relationship, including the prospect of future dealings, would play the major role in assuring acceptable performance – including acceptable renegotiation of the *explicit* terms.

The main problem with a reliance on highly relational contracts and periodic renegotiations is that the outcome of such renegotiations is likely to depend more on the relative strength of the parties' bargaining positions at a particular time than on sound considerations of public policy.

A relational contract coupled with bidding on tariffs in accordance with conventional procurement procedures (e.g. those typically used for works contracts) can be a recipe for disaster. Bidders may tend to bid low in the expectation that they will be able to use the relational aspects of the contract later on and their strong negotiating strength (e.g. if more investments are needed) to increase the tariff. But if the public authority is in a stronger bargaining position (e.g. when the most important investments have already been made), they may refuse to increase tariffs to a full-cost-recovery level – the classic 'hold up' problem.

Moreover, the typical lack of transparency in the renegotiations makes the outcome conducive to being swayed by corruption.

The success of strongly relational contracts is very much context-specific. Relational contracts can work if the influences and norms are appropriately balanced, but as a general policy rule they are a risky and fragile way to design a PSP arrangement, particularly in a developing country context. This paper therefore advocates a regulatory approach involving formal rules and third-party adjudicators, rather than informal influences and bilateral renegotiations.¹³

Finally, it is important for the sections that follow to note that regulation by means of precise rules and regulation by contract are related to each other but refer to two different things. A regulatory licence could impose very precise rules (over one price control period); that does not make the arrangement 'regulation by contract', as we are using the term.¹⁴

Summary (Section 2.2)

- In simple 'regulation by contract', all the regulatory rules are contained in a contract and there is no specialised regulatory agency or a requirement for one. Ordinary courts or

¹³ This does not mean, however, that the arrangements should have no relational aspects. Relationship-preserving norms – a sense of trust, generalised reciprocity – are crucial to the success of PSP arrangements. The point being made here is that enforceable formal rules provide a solid bedrock to protect against opportunism.

¹⁴ In contrast, this is indeed how the term 'regulation by contract' is used in Bakovic, Tenenbaum and Woolf (2003).

conventional arbitrators serve as the dispute resolution mechanism. For the most part, relatively *precise* rules have to be used in the contract.

- It is generally accepted that simple ‘regulation by contract’ (in this sense) is not feasible for the regulation of long-term concession contracts covering entire water and wastewater systems. High uncertainty about the future means that the contract is too ‘incomplete’ in fundamental ways.
- Comprehensive tariff reviews, conducted periodically, seem to be inevitable, but these cannot be dealt with well by simple regulation by contract.
- One solution is to rely on periodic renegotiation between the parties. But this is too risky: the outcome depends a great deal on the parties’ relative bargaining power, rather than public policy considerations.
- The conventional solution to the problem is to use a specialised regulatory agency to take the needed discretionary decisions (i.e. those that cannot be mechanically dictated by precise rules written in a contract).

2.3 Regulatory agencies

The need for specialised discretion in regulatory decisions has been one important reason for setting up independent utility regulators.¹⁵ Regulatory agencies are staffed with specialists and, through experience, develop organisational competence. Because they deal with the same adjudicator for all cases, regulated companies learn how to broadly anticipate the regulator’s responses even if the regulator makes discretionary judgements – i.e. a particular regulatory *culture* develops.

The conferring of considerable discretion makes impartiality especially important. *Independence* is considered crucial to this end: the agency board members (commissioners) are not part of a government ministry, are appointed for fixed terms, and can be removed from office only in the case of incapacity or gross dereliction of duty. Just as important is a funding mechanism that is separate from the general government budget. Finally, procedures must be transparent and fair.

The term ‘regulator’ can be used in a number of different ways. It is important to set out how we are using the term for the concepts developed in this paper. If the definition of ‘regulator’ is too broad, one could conclude that every PSP arrangement needs one; but this is not a helpful way of using the term.

In relation to the set-up and role of utility regulators (observed mostly in sectors other than water), some typical, though not universal, characteristics are the following:

¹⁵ This is only one of the reasons why separate utility regulators have been set up. In some countries in Latin America, regulators were established to adjudicate concession contracts mainly because the judicial system was considered too weak. In many countries, independent regulatory agencies have been set up to reduce short-term political interference and hence to show credible commitment to private investors. Finally, a frequent motive for the government to propose the creation of an independent regulator is to shift responsibility and blame for price increases to someone else.

- The regulator is established and is given its mandate by law – not just by the terms of a contract between the public authority and the company.
- The regulator is a permanent body (or established for the entire course of the PSP arrangement), not a temporary organisation set up only at periodic intervals, and has a number of defined functions that it fulfils on a continuing basis.¹⁶
- The regulator exercises its authority through the issuance and adjudication (and sometimes enforcement) of licences (or the equivalent), which are the prime means of regulating the companies.
- The regulator is expected to exercise discretion; in other words, its function is not just to determine if the company is complying with a set of sharp rules. For example, in the way we are using the term, it would be going too far to call an entity a ‘regulator’ if the only thing it did was to verify that the company had adjusted tariffs each year using a mechanical indexation formula.
- The discretion that the regulator exercises involves public policy issues to some extent.¹⁷
- The regulated company plays no role in the selection of the personnel (e.g. directors or commissioners) of the regulatory body, a task that is generally undertaken by a state entity.

The idea of policy-related discretion is a particularly important one. The policy questions we are referring to relate to trade-offs of costs and benefits between different social groups, or involve social values of one sort or another – e.g. notions of fairness or equity. For example, the exhortation in some of the laws establishing regulators that one objective is to ‘balance the interests’ of companies and consumers or to ensure that there is no ‘undue discrimination’ or ‘undue preference’ in tariffs signals policy-laden decisions.

In contrast, a decision about whether Company X, if it were managed efficiently, would be able to operate the water system at an annual cost of less than \$Y, all things considered, is not a policy-related decision even though it involves a good deal of discretionary judgement and often a considerable amount of uncertainty.

Most utility regulators around the world exhibit the characteristics set out above. Some organisations often referred to as ‘regulators’ would, however, not meet all of these criteria. For example, the regulator of the Manila water concession is a very much a creature of the contract between the parties, and its limited formal mandate is to apply certain terms of the contract. Using the scheme developed in this paper, it might be more accurate to call it a *contract oversight unit* – the way national authorities in the Philippines tend to think of it. To avoid a lengthy and largely pointless debate, it is probably better simply to recognise that the term ‘regulator’ does not have a single meaning set in stone. Nevertheless, for the purposes

¹⁶ The notion of some observers that regulators might set prices every few years and refrain from intervention in the interim has not proven to be feasible even in incentive based regimes.

¹⁷ This calls into question the common idea that, in the allocation of sector functions, *policy making* can be neatly separated from *regulation*. Cf. Brown (2003), who describes two levels of sector policy making, ‘macro’ and ‘micro’, the latter being something that is best delegated to regulatory agencies. Historically (e.g. in the U.S.), regulators have sometimes been established for the very reason that the other branches of the state have found themselves incapable of defining relevant policy. (For the U.S., see Skowronek (1982), chap. 8.)

of this paper, we define a regulator as having the kind of characteristics set out above – what one might term a ‘conventional’ utility regulator.

A large part of the design problem involved in setting up utility regulators is connected with the discretion they must be given. Impartiality becomes more difficult to ensure to the degree that key regulatory rules become less precise and more principle-like. The risk of bias or capriciousness increases because there is then no bright-line way to tell when discretion has been abused.

In recent years it has been seen that the performance of conventional independent regulatory bodies set up in developing countries, and modelled on U.K. or U.S. precedent, leaves much to be desired. There are a number of reasons:

- Perhaps most important, the crucial attribute of *independence* (or more accurately, *impartiality*, which is what independence is supposed to lead to), is in practice very hard – if not impossible – to achieve in a developing-country context.¹⁸
- Regardless of the independence issue, in many cases the rules have not been defined precisely enough to avoid giving the regulator too much discretion, especially in regard to tariff setting. There can be a vague mandate to achieve full-cost recovery in the longer term, but with the recognition that affordability and willingness to pay present real problems in the short (and possibly longer) term. This raises a number of issues. First, exactly what is meant by full-cost recovery, a worthy objective but something that needs to be defined further. Inadequate specification of this important concept may confer too much discretion on the regulator. Second, if full-cost recovery can be defined and cost recovery tariffs determined, what is the path that tariffs should take over time and should that path be determined by a regulator who, in this respect, would need to be given considerable discretion? Freedom of this sort can be of great concern to PSP investors. This has recently proven to be the case, for example, in Zambia, where PSP operators are reported to be reluctant to pursue a lease contract in Lusaka (yet to be tendered). There is a perception that the regulatory risk is too great because the regulator, NWASCO, seems to have a great deal of discretionary power in relation to tariff setting. For example, in certain areas (including a part of Lusaka) NWASCO has at times decided to reduce tariffs for poor performance on the part of the water company.
- Regulatory agencies in developed countries have exhibited a tendency over time to expand the scope of their functions and the intrusiveness of their interventions, in effect pushing at the boundaries of their discretion – which could be referred to as ‘regulatory creep’. There is no reason to think that this bureaucratic tendency will not arise in developing countries, too, and perhaps to an even larger extent. This again causes concern to investors, who see the regulatory regime as a source of considerable risk as the regulator tries to exercise progressively greater influence and oversight over a PSP contract and the company’s operations – even if this exceeds the formal mandate of the regulator. In Indonesia, the ‘regulator’ for the two concession contracts in Jakarta, for example, has tried to expand its role over time even though the contracts specify a limited role for the body.

¹⁸ See, e.g., EBRD (2004: 55), which points out the ‘gap between the regulatory arrangements on paper and their application in practice’ in the EBRD’s countries of operation.

There may be advantages, therefore, in searching for alternative solutions to the regulatory problem faced in the water sector – solutions that go beyond simple regulation by contract but avoid some of the drawbacks of a fully-fledged conventional regulator.

Summary (Section 2.3)

- An important reason for setting up utility regulators has been to create specialised entities that can exercise needed discretion in a competent, responsible and impartial manner.
- Although the term ‘regulator’ can be used to apply to different kinds of entities, conventional utility regulators, modelled after U.K. or U.S. practice, tend to have a number of features in common.
- The performance of conventional regulatory bodies in many developing countries has fallen short of expectations. Most important, the right kind and degree of independence has proven difficult to achieve. In addition, regulators often have too much discretion or, despite a limited formal mandate, try to increase the scope of their activities over time. For PSP operators, dealing with regulators is often perceived as a high risk venture.
- It may be worthwhile, therefore, to look for other kinds of solutions, ones that can complement – or even replace – conventional regulatory bodies.

2.4 Do water services require a conventional utility regulator?

It would seem that simple regulation by contract is not sufficient for water service concessions especially because of the unavoidability of periodic comprehensive price reviews. Because of the drawbacks of conventional regulators in developing countries, we asked at the end of Section 2.3 whether there were other acceptable solutions. Before moving to the solution proposed in this paper, it will be useful to look more deeply at the conditions under which a fully-fledged conventional regulator might be difficult to dispense with. If it is concluded that a conventional utility regulator is necessary, then we may have no choice but to focus on making regulators work better or perhaps to develop complementary mechanisms.

We referred in Section 2.2 to the role that uncertainty plays in making regulation by contract infeasible. Two major types of uncertainty in the context of utility regulation are the following:

- Uncertainty regarding initial conditions (e.g. the initial condition of the physical assets).
- High probability of unpredictable changes in the future arising from changing industry structure, partial liberalisation, high rate of technological change or heterogeneous products – unpredictable changes that might require frequent or complex modifications to the regulatory rules governing the company’s conduct, and often requiring complex public policy input.

Where do urban water services stand with regard to these two aspects?

With regard to the first aspect, there is often great uncertainty about the condition of underground assets in a system that is being taken over by a private sector operator in a developing country. It is extremely difficult to estimate needed improvements and their timing and to fix a realistic long-term base tariff level. The method for resetting a base tariff

after better information is obtained will almost certainly involve principles relating to ‘acceptable’ or ‘efficient’ costs, or something similar, and these will often lead to thorny issues of definition and verification. Other types of initial uncertainty exacerbate these difficulties: for example, in some systems, the lack of metering (bulk meters and customer meters) can create uncertainty over the potential revenue base; and usually the lack of a good understanding of the breakdown of non-revenue water into technical losses and commercial losses presents a severe challenge to the planning of remedial actions. Uncertainty in relation to these aspects means that estimating future cost-recovery and revenue levels and the concomitant impact on tariffs cannot be carried out using precise rules alone. They will need to be supplemented by other mechanisms. But all of these problems involve largely (but not wholly) technical, as opposed to policy, questions, a point to which we will return in Section 6.1.2.

The picture is much different when it comes to the second point. First, the technologies used for water and wastewater services are relatively stable and are not expected to change in radical ways. We do not expect anything like the revolution in the energy sector sparked by the development of combined cycle gas turbine technology. Second, in contrast to, for example, railway services, we are dealing with a relatively homogeneous product.

These conditions suggest, rather tentatively, that the rationale for a conventional regulator may be less powerful in the case of water services than other network utilities and that contracting – and regulation – by means of sharp rules, although not entirely adequate, might be more feasible.

The greatest difference, however, between water services and the other network utility industries is the relative absence of competition (competition *in* the market) in the water sector. Although vertical unbundling and the common use of the distribution network by several competing producers of water is possible and advocated by some, this arrangement is not likely to be applied in water systems in developing countries for many years.

The complex coordination required when there is vertical unbundling and competition is a major factor that makes regulation by locked-in precise rules infeasible. When competition is introduced in a regulated utility industry, it is difficult to imagine dealing with all the important issues that arise, pertaining to the relations between generation, transmission and distribution, solely by means of a set of precise rules. For example, it is difficult to imagine devising a set of sharp rules to govern conditions of access to the monopoly network, especially access pricing,¹⁹ in a vertically unbundled industry – sharp rules that would be suitable for all possible circumstances for years to come. There are more players, not just a monopoly company and the public authority, and they interact strategically in complex ways – and react strategically to whatever rules the regulator adopts – in an environment of highly asymmetric information.

Ofwat had to consider the question of access pricing for ‘common carriage’ in response to the U.K. Competition Act that came into force in 2000. (In common carriage, the company that owns the network must allow it to be used by other water producers to distribute water to the customers of these other producers.) Each regulated water company is permitted to use one of three specified approaches for calculating access prices. Ofwat also sets out a list of broader principles and then states: ‘In assessing disputes or complaints about access prices,

¹⁹ See Valletti and Estache (1998) for a good overview of this complex subject.

Ofwat will focus on the effect of the price on competition *in individual cases*, and on the cost information on which it is based' (emphasis added).²⁰ So even in this attempt to come up with general rules, it is understood that, given the multiplicity and complexity of the issues, in the final analysis Ofwat will have to take a decision on a case-by-case basis. As noted above, common carriage is unlikely for the foreseeable future in the water systems of developing countries.

In short, many of the conditions that are present in other network utility industries that lead to the need for highly discretionary regulation are not present, or are not present to the same degree, for water services; and the lack of competition in the market is a key aspect. There is much less need for the regulation of *structure* (e.g. to permit competition) or for the added complexities of regulation of *conduct* in a partially liberalised environment (e.g. access pricing).

Most of the policy writing about the need for regulatory agencies for network utilities originates with work on energy, gas, and telecoms. Regulatory agencies dealing with water are often the same as, or modelled after, agencies developed for other network utilities.²¹ An important question is whether advisors and governments have moved too quickly to apply to the water sector regulatory models developed for other network utilities, without full consideration of the sector's characteristics.

This does not mean that the regulation of water services by some type of dedicated agency or commission should be eliminated. But perhaps regulation by means of fully-fledged, state-of-the-art discretionary utility regulators is not necessary. Perhaps the best solution would be a hybrid form combining elements of regulation by contract and discretionary regulation – because the simplest form of regulation by contract may not be sufficient.

To sum up: full water services are certainly subject to more uncertainty and complex interactions than BOTs, but less than energy or railway regulation. Many of the adjustments needed over time can be dealt with by sharp rules. But an entity (or entities) playing a regulatory role will still be needed, and it is difficult to imagine completely doing away with periodic comprehensive price reviews that involve considerable discretion, given uncertainties on initial and future asset conditions (and the customer base) and the concomitant uncertainties about cost levels and perhaps revenue levels also. Simple regulation by contract will not work because ordinary courts and conventional arbitration are not well suited to carry out such reviews.

In the sections above, we have argued, first, that there are many problems with conventional utility regulators in developing countries and, second, that the characteristics of water services are such that they may not be needed. Is there any other method, other than a fully-fledged regulator? Beginning in Section 3, the rest of the paper will lay out and explore one concrete proposal for an alternative: the use of an expert panel.

²⁰ Ofwat, 'Pricing Issues for Common Carriage', MD163 (30 June 2000). See also Ofwat's guidance note 'Access Codes for Common Carriage' (March 2002).

²¹ E.g. Thatcher (2002: 136) writes that in Europe during the 1980s and 1990s: 'Within countries, "snowball" effects meant that once an apparently successful model of an agency existed, it was copied in other domains. ... Copying took place despite considerable contrasts in the features of the sectors and hence functional reasons for delegation to [independent regulatory agencies].'

Summary (Section 2.4)

- There is greater justification for using a discretionary regulator when uncertainty is present in a way that makes the use of precise rules (e.g. relatively complete contracts) infeasible as a means of regulation.
- Although water services do involve uncertainty, it can be argued that the degree of uncertainty is considerably less than in other network industries because of (i) a relatively stable technology and, most important, (ii) the absence of competition in the market.
- Therefore, although it is hard to imagine that conventional regulators could be eliminated in the telecoms, power or gas sectors, the idea should not be immediately dismissed with respect to water services.
- Regulators used in the water sector are modelled after those developed for other network utilities. Perhaps the model needs to be rethought in the case of water.

2.5 Criteria for evaluating regulatory regimes

In Section 3 we develop the idea of the expert panel as a potential solution to the regulation of long-term PSP arrangements for water and wastewater services. But first, it may be useful to describe criteria against which we can evaluate the option.

Three kinds of criteria that could be used to assess the strengths and weaknesses of different water sector regulatory regimes are the following:

- *sector performance criteria*, which seek to draw conclusions about the performance of a regulatory regime in terms of its impact on water industry performance, including measures of efficiency, service levels and quality;
- *regulatory process performance criteria*, which seek to draw conclusions about the strengths and weaknesses of a regulatory regime in terms of regulatory process; and
- *institutional criteria*, which assess the compatibility of a regulatory regime with the broader institutional endowment of a country.

Since this paper is general in scope and does not attempt to give recommendations for specific countries, we will give our attention to regulatory process criteria.²² Baldwin and Cave (1999: 76ff.) provide a useful framework. They set out five key tests of the performance of a regulatory regime that focus on issues of regulatory process. They argue that, taken together, these tests will constitute an indicator of the overall *legitimacy* of the regulatory regime.

The legitimacy of a regulatory regime in this sense refers to its acceptance, over the medium and long term,²³ by stakeholders, such as consumers and regulated businesses, as a source of

²² One could go on from there to discuss how the ideas in the paper might be adapted to suit different institutional endowments. But that is not the aim of the present paper.

²³ As Baldwin and Cave (1999: 82) point out, a regulatory regime that achieves support simply because of a good public relations campaign or by misrepresentation should not be considered to have legitimacy.

authority that exercises its powers in a fashion they consider appropriate.²⁴ Over the long run, a regulatory regime needs to be accepted as legitimate to ensure its effectiveness and stability. Without this, the regime will be unable to achieve its goals without creating a ongoing and destabilising sense of resentment by one party or another.²⁵ As a result, it might be expected that a regulatory regime that performs poorly against these criteria will be vulnerable to being undermined or dismantled.

The five tests developed by Baldwin and Cave are the following.

- Is the action or regime supported by legislative authority?
- Is there an appropriate scheme of accountability?
- Are regulatory decision-making procedures fair, accessible and open?
- Is the regulator acting with sufficient expertise?
- Is the action or regime efficient?

We would want to add that a regulatory regime must also be seen as achieving broad *substantive fairness* by important stakeholders to be perceived as legitimate.

One could also consider more specific, intermediate criteria that help further the broad objectives implicit in the tests of Baldwin and Cave, criteria that we touched on in Section 2.3 – namely:

- independence from short-term political influences;
- constraints on the discretion of the regulatory body; and
- constraints on regulator’s ability to increase its role over time (a dynamic version of the second point).

We will look at how the expert panel idea fares against all of these criteria in Section 6.3.

Summary (Section 2.5)

- There are a different kinds of criteria that can be used to evaluate a regulatory regime. We will focus on *regulatory process performance criteria*.
- As intermediate criteria, we will also look at questions of *independence* and *constraints on discretion*.

3. THE EXPERT PANEL AS A SOLUTION

3.1 Basic concept

The idea we want to explore in this paper is that periodic price reviews (say, every 3–5 years) would be managed and ultimately decided by an independent panel of experts, convened for

²⁴ This is slightly different from Baldwin and Cave’s definition of legitimacy. Following a particular tradition in political theory, they look at whether the regime ‘deserves support’, a normative question. We prefer to think rather in terms of the potential for *actual* support over the long run.

²⁵ Cf. Freedman (1998).

this particular purpose. By ‘independent’, we mean first of all that the government does not have the power to decide unilaterally the selection of the members of the expert panel. Ideally, the candidates would be short-listed by a respected and independent nongovernmental organisation and then the selection of the specific members would be made by a process involving the public authority and the water company in which they have equal say in the matter. Independence also requires that neither party should have any discretion over how the panel will be remunerated for a price review that it has carried out.

Price reviews would usually take place at fixed intervals, e.g. every 3–5 years. There might also be provisions to allow a party to call for an interim comprehensive price review in certain other circumstances in which there has been an unexpected change in circumstances with broad and substantial consequences. And certainly the rules should make it clear that an interim comprehensive price review could be called any time the parties *jointly* request this – in other words, where the parties recognise that there is an overwhelming need to readjust prices even in circumstances in which it would be difficult to demonstrate an unexpected major change.

Three ways that this arrangement could be organised are as follows:

- (a) The panel replaces the regulator for the periodic review. In fact, there might not be any need for a conventional regulator.
- (b) The panel gives a recommendation, without binding force, before the case goes to the regulator.
- (c) The panel serves as an appeals body for a decision taken by the regulator.

One can envisage circumstances, depending on the country context, in which each of these might be useful. Arrangement (b) may be useful where the regulator is basically well-intentioned but, for one reason or another, needs a supporting judgement when it issues a decision. Another context would be where the regulator and government know that international pressure (e.g. by an IFI) would be brought to bear if the regulator diverges greatly from the recommendation of the expert panel (see, e.g., the Bucharest case, Section 5.6.2).

Arrangement (c) could be useful in a country with a new and untested regulator: the expert panel could act as the first-level appeals board for a decision taken in the first instance by the regulator. This would give more comfort to private investors. It is unusual, however, for a government to permit the decisions of a statutory regulator to be appealed to a private body; this is often considered to be an infringement on a state’s inherent sovereignty over crucial public policy decisions. One example of where this is done is Chile (see Section 5.6.1). One factor in making this acceptable may involve giving greater public sector control over the *method* of selecting the experts (but not the actual selection). Another factor – probably the key factor – is to narrowly limit the scope of review of the expert panel, as is done in Chile.

The central focus of this paper is on option (a): use of the expert panel to substitute for a regulator. Most of the discussion and most of the conclusions could, however, apply also to alternatives (b) and (c).

Sometimes regulators decide to contract out certain functions to private entities – e.g. to supplement the regulator’s limited resources, to reduce costs or to improve the quality of regulation (see Trémolet, Shukla and Venton 2004). The present paper is not concerned

specifically with arrangements of this type, although some of the discussion would be relevant to contracting out. The arrangements we are referring to either replace the regulator (as in (a)) or are imposed as part of the overarching regulatory framework, irrespective of the regulator's wishes (as in (b) or (c)).

Summary (Section 3.1)

- The idea to be developed in this paper is that of using a specially constituted independent expert panel to carry out periodic comprehensive tariff reviews.
- There are different ways that such a panel could appropriately be used. This paper focuses on how the expert panel could *substitute* for a conventional regulator in carrying out a periodic tariff review.

3.2 Standing panel or ad hoc panel?

An important question is whether the expert panel should be established for the entire duration of the concession (or in the case of a privatisation, on a permanent basis), or whether it should be set up anew for each periodic price review. The main advantages of a standing panel are twofold: first, the panel can be ready more quickly in the case of an interim comprehensive price review or an extraordinary tariff review (see Section 3.5); second, using the same expert members, who are already familiar with the service system and the regulatory history, can speed up the process and bring greater consistency to the decisions. A standing panel develops an institutional memory, which can be extremely important – a lesson learned from the experience of conventional regulators.

The only disadvantage of a standing panel is cost, but it may be that the benefits can justify this.²⁶ Typically, the panel members would need to receive a minimum retainer to assure their availability in case of an interim or extraordinary price review. If this is set at, say, two days of pay per month per person, for a panel of three international expert members the cost could be over US\$150,000 per year²⁷ – even if the panel does nothing between price reviews. Many municipalities and water companies might think this is excessive.

The ideal solution would be to use the same standing expert panel for a number of concessions; this could drive down the minimum retainer to just a nominal amount – essentially, a membership fee. This could happen if a government decided to institutionalise the mechanism for all the water companies in the country, allowing municipalities to opt in to the system or take their chances with the national regulator. It could also occur if a multilateral organisation created or sponsored the mechanism and encouraged wide participation.

In the case of ad hoc panels, to encourage some consistency in the decisions over time, one approach would be to include in the rules a provision requiring the panel to give due consideration to the approaches and criteria used by panels in past price reviews and to

²⁶ Part of the benefits are the indirect costs that might be avoided – especially the considerable costs of continual reform when regulatory arrangements break down.

²⁷ At the ICSID daily rate of US\$2,400 (8 March 2004), the annual cost would be US\$172,800.

explain its reasons for any large divergences, while making it clear that the present panel is not bound by the decisions of past panels.

Summary (Section 3.2)

- An important design question is whether to create a standing panel or to set up the panel anew each time it is needed to carry out a price review.
- A standing panel would be better, but there may be a cost disadvantage if an availability fee (minimum retainer) has to be paid.
- This potential disadvantage would disappear, however, if the panel concept were used by several concessions in a country or under the auspices of a regional or international organisation.

3.3 Why not use arbitration instead?

One alternative to the use of an expert panel would be to rely on arbitration procedures. Arbitration conducted in accordance with international standards – loosely, *international arbitration*²⁸ – is now the dispute resolution mechanism of choice in water system concession contracts involving foreign water operators. One initial question likely to be raised is why arbitration should not be used to adjudicate a comprehensive tariff review. The parties could attempt to agree the new tariffs given the rules set out in the contract, and then if they could not agree, one of them could make a claim in arbitration. Although we stated in Section 2.2 that the mechanisms used for ordinary contracts – e.g. the judicial system and arbitration – are not well suited for periodic price reviews, it may be helpful to look more closely at this contention.

Arbitration is a form of private dispute resolution that is created by contract but within a framework determined by national law (in most countries) and multinational treaties. In accordance with the legal framework, an arbitrator's decision ('award') is accorded a high degree of deference by the judicial system. The price to be paid is that the freedom of the parties to carry out the arbitration using any procedures they may wish – especially when the procedures are unusual or very informal – may be curtailed to some degree.²⁹

²⁸ The term 'international arbitration' can have a number of different meanings. In this report, for simplicity we will often use this term, but it should be understood that we are using it in a loose sense to mean arbitration conducted in accordance with international standards. For example, in some countries, the seat of arbitration could be the host country and a reputable local appointing authority could be used and we might still want to use the term 'international arbitration' in this loose sense if the internationally recognised UNCITRAL arbitration rules govern the arbitration. Another way of putting it is that we are using the term 'international arbitration' to mean arbitration of a type that is typically used when the parties or their controlling shareholders are of different nationalities.

²⁹ In fact, arbitration is sometimes considered to be a 'judicial' process. Apart from procedures, there are a number of other aspects that make arbitration resemble litigation and arbitrators resemble judges – e.g. arbitrators generally have immunity from being sued in the same way that judges do. In general, when questions of this sort arise, the law in many countries tends to view arbitrators, in effect, as substitutes for judges.

Arbitration, especially international arbitration, has come more and more to resemble litigation in the court system.³⁰ In fact, an important reason that arbitration is preferred for concession agreements in developing countries is not so much because it is *different* from litigation (one of the reasons why arbitration developed) but because it is more likely to operate in the way that litigation *should* operate – especially with regard to the competence and impartiality of the adjudicators.³¹ For this reason, we can, *for present purposes*, put litigation and arbitration together and look at the strengths and limitations of these two when it comes to deciding a comprehensive tariff review.

One justification for general purpose dispute review boards that operate more informally and serve as a first step before recourse to arbitration is that they are speedier and less costly than arbitration. There will surely be cost advantages also in using an expert panel instead of arbitration for a comprehensive price review, but our focus is on another aspect: conventional arbitration is not an appropriate mechanism for a comprehensive price review; there is a mismatch between the type of issue and the type of adjudicator.

It is important in designing dispute resolution mechanisms to ensure a good fit between (i) the nature of the dispute, (ii) the adjudicating entity and (iii) the substantive rules governing the dispute. This fundamental design principle is often not given as much attention as it should.

Carrying out a comprehensive price review requires a vast amount of background knowledge; not everything can be spelled out in detail in the rules in the contract. The members of an expert panel will use their own expertise and experience in interpreting the rules and in carrying out the review. A conventional arbitral tribunal would have to rely on a parade of experts on both sides in order to get up to speed on all the needed knowledge and skills.³² (It is rare in sophisticated international arbitration for the arbitrators to hire their own experts.)

One simple example will suffice. Suppose that the rules in the contract refer to ‘discounted cash flow techniques following best international practice’ or ‘generally accepted principles of the capital asset pricing model’. To a well-qualified financial member of an expert panel, the meaning will be clear enough. An arbitration tribunal, however, would normally have to hear expert evidence to decide what the terms mean in concrete terms in the context of the case if the parties cannot agree on this.

In short, in a price review adjudicated by a conventional arbitral tribunal, the arbitrators have to review and assess what the various experts are telling them; in an expert panel, the experts themselves are carrying out the work, using their own skills.³³

³⁰ Cf. Park (1997: 31): ‘In matters of procedure, arbitrators are more likely than experts to adopt a decision-making mechanism with the basic attributes of a judicial proceeding.’ Cf. Dezalay and Garth (1996: 44): ‘Ironically, the promoters of alternative dispute resolution represent an echo, now from a new place, of precisely the arguments that the arbitration community once used to challenge the hegemony of the formal state justice systems.’

³¹ Another advantage of arbitration is that, because of the New York Convention, arbitration awards are much more widely enforceable around the world than are court judgements.

³² In many jurisdictions, arbitrators are permitted to use their own special expertise so long as this is disclosed to the parties. But the tendency in conventional arbitration is to use lawyers, or professionals with broadly defined areas of expertise (construction, oil & gas, banking, etc.). (See Section 5.4.)

³³ In addition, they might engage more narrowly specialised experts to advise them on certain aspects.

Figure 1 shows how several different kinds of adjudicators are positioned along two dimensions: the degree of specialisation of the adjudicator and whether or not the parties can choose who the adjudicator is.

Figure 1. Describing different kinds of adjudicators

Degree of specialist expertise of the adjudicator	High	Special tribunal – e.g. LUL PPP Arbiter (see Section 5.5); bankruptcy courts; tax courts	<u>Expert panel</u> (as proposed in this paper)
	Low	Ordinary courts	Conventional arbitration
		No	Yes
Party choice over identity of adjudicator			

Summary (Section 3.3)

- Arbitration shares one important characteristic with the envisaged expert panel: the parties themselves select the arbitrators.
- But conventional arbitration – somewhat like litigation in the courts – has two characteristics that make it not well suited to play the role envisaged for the expert panel: (i) arbitrators generally do not have the degree of specialised expertise needed for carrying out *comprehensive* tariff reviews; and (ii) the procedures followed are too formal and court-like.

3.4 Relation to other dispute handling mechanisms in the contract

The expert panel proposed in this paper would have one clearly defined task: to carry out a comprehensive price review, which would be well defined in the contract. The panel is not intended to be an all-purpose dispute board. The contract may well have provisions for other types of dispute handlers, in addition to arbitration or the courts as the final recourse. For example, there might be an interim adjudicator or dispute review board as a first step before (and with a view to avoiding) arbitration. Third party experts and expert panels might be used for a number of functions when there is not statutory regulator – e.g. to verify or audit financial or technical performance information. Also, mediation will sometimes be included in the dispute handling procedures.

It is an important design problem to ensure that all the different dispute prevention and resolution mechanisms fit together well. One concern is that the domains covered by the mechanisms (subject-matter jurisdictions) do not overlap and do not leave gaps; and this leads to the question of who will decide disputes concerning these issues. Another concern is to ensure the most effective sequencing of mechanisms. Especially important is to achieve sufficient clarity about all of this to keep disputes out of the country’s courts.

Unfortunately, it often happens that true experts in dispute resolution are not consulted in the drafting of these clauses. It seems not to be well understood that the design of dispute handling mechanisms requires special expertise.³⁴

Summary (Section 3.4)

- The proposed expert panel is not intended to be a general-purpose dispute board. The contract (or, more generally, the regulatory regime) will need to specify procedures and entities for other kinds of dispute handling.
- Special care needs to be taken to ensure that all the dispute handling procedures fit together well.

3.5 Extraordinary tariff adjustments

Most regulatory regimes for water services, whether contract-based or managed by a conventional regulator, include provisions for extraordinary tariff adjustments in response to specific changes in circumstances that are substantially beyond the control of the operator and that have a considerable impact on the operator's financial situation.³⁵ A classic example is a change in health or environmental laws that requires the operator to make major modifications to the water or wastewater treatment plant. Events such as this may not be able to be handled adequately by postponing the tariff adjustment to the next periodic tariff review; the impact on the operator's immediate cash flow needs would be too great. Most regulatory regimes use adjustment methods that handle these changes on an incremental basis: i.e. the only costs of the operator that are considered are those that have been affected by the event. Another way to express this is that the adjustment is carried out *as if* the specific event had been predicted and taken into account (as a future event) at the time of the most recent full price review.

An important issue is how extraordinary tariff adjustments should be handled and how this would relate to the role of the expert panel described in this paper.³⁶ The most important consideration is whether the expert panel is a permanent standing panel or is established anew for each periodic review (see Section 3.2 for further discussion of this point). If there is a standing panel, then it would make sense for the panel to carry out the extraordinary tariff review, following the regulatory rules that have been set out for this (as in the Bucharest arrangement, see Section 5.6.2). Since some extraordinary reviews will involve a limited number of issues and require much less discretion than a comprehensive review, there could be a mechanism by which only the chairperson of the expert panel (the lead regulatory expert

³⁴ And this is more than just the expertise of a good contract lawyer. Cf. Park (1997: 34): 'Misguided lawyers invite unnecessary litigation by providing that some disputes arising out of the contract will be settled by arbitration, while others are for courts or experts.' Such an allocation of disputes could be achieved, but it would require careful drafting.

³⁵ In England and Wales, these are called 'interim determinations' of 'K' (IDOKs) and are triggered whenever a materiality threshold is reached in terms of impact on turnover and the factors making up that impact themselves meet a certain non-triviality threshold.

³⁶ Of course, if the interim tariff adjustment is designed to be a new *comprehensive* review instead of an incremental review, then the expert panel clearly has the same role to play as in a periodic tariff review. We are considering only those interim reviews that are less comprehensive in some way than a periodic tariff review.

– see Section 4.3) would handle certain kinds of cases, engaging consultants as needed to provide specialist input.

The question is more difficult if there is no standing expert panel. The delays and costs to set up an ad hoc panel just for the extraordinary review may not be worth it. If the concession contract involves the use of an interim adjudicator to give quick decisions about disputes (as in British construction contracts – see Section 5.3), this might be a good way to handle extraordinary reviews (unless both parties agree that the review merits a full expert panel). The adjudicator would give a rapid decision that would be binding in the interim but that could be reviewed de novo by the expert panel when it next convenes.

These issues would need to be explored in more detail in designing an actual system. We do not consider them to be essential to the main points in the present paper because extraordinary reviews, given their narrower and incremental nature, are the sort of contingencies that can be handled well by ordinary contractual dispute resolution mechanisms (regulation by contract) – unlike a comprehensive price review.

Summary (Section 3.5)

- Extraordinary tariff adjustments would be triggered between periodic full reviews by specific uncontrollable events or circumstances that impose a substantial financial burden or benefit on the operator.
- The distinguishing feature of an extraordinary review (as we are using the term) is that the tariff adjustment is determined on an *incremental* basis.
- If there is a standing expert panel, it would make sense for the panel (or, in some cases, just the chairperson) to adjudicate extraordinary tariff reviews also.
- In the case of an ad hoc panel, there are a number of different possibilities. These are details – albeit important ones – that would need to be developed in setting up an actual system.

4. HOW THE EXPERT PANEL WOULD WORK

This section goes into more detail about how an expert panel would be set up and carry out a price review.

4.1 The substantive rules governing the expert panel's decisions

Detailed rules would be need to be set out for how the price review would be conducted. These rules would be much more comprehensively developed than those found in most present-day concession contracts. The rules would include substantive rules and procedural rules. This section discusses the substantive rules. Given that we want a rule-based system, the panel cannot perform its functions well unless the substantive rules are sound.

There is a striking disparity between the rules used for concessions in the regulation-by-contract mode and those used in the fully-fledged-regulator mode. For example, the contracts

for the Manila concessions devote two pages to the rules for a periodic review.³⁷ The Sofia concession agreement has just a few terse paragraphs on the subject. In contrast, many conventional regulators, such as Ofwat, produce an enormous volume of documents concerning the way the next price review will be carried out; and if they did not do so, they would probably be open to challenge over their procedures.³⁸

We believe that it is possible, and desirable, to develop the rules further so that they can serve as a sufficient framework for the expert panel – to constrain their discretion in important ways without taking away their flexibility and ability to use their professional judgement – in a reasonably short document that could serve as an annex to the concession agreement. It should be noted that, since the expert panel will be applying these rules and not a court or arbitral tribunal, one can express the rules in a much more compact form since the expert panel have the appropriate expertise to interpret them properly. The rules would tend much more towards *principles* than a full set of very precise and detailed rules.³⁹ The whole rationale for using an expert panel for the comprehensive price review is that it is impossible to write a recipe book in which sharp rules can be set out step-by-step and followed in a mechanical fashion. If that were possible, there would be no need for an expert panel – or a fully-fledged regulator, for that matter.

One can conceive of the tariff review process as consisting of several major steps – e.g.:

- begin with all the service standards and other requirements (explicit and implicit) that the company is required to meet over time;
- assess the business strategies, activities and intermediate outputs that the company has proposed for achieving these outcomes in a timely manner;
- assess the corresponding investment and O&M costs that would need to be incurred by a reasonably efficient company;
- determine the revenue requirement over the forthcoming price control period and year by year;
- based on demand forecasts and the tariff structure, translate the revenue requirements into average and specific tariffs.

The most critical and difficult rules relating to these steps would be those dealing with how to arrive at a reasonable estimate of the acceptable *future costs* of the utility – and in some cases the level of future demand and hence revenues.⁴⁰ Since the purpose is to set the tariff for the future, making these estimates is essential.

³⁷ Consultants for the regulatory office prepared a lengthy manual for price setting based on the contract, but it was not binding since it was not agreed by the other contractual parties.

³⁸ So while legislation and licences may say little about *how* a review is to be undertaken, the legal framework in essence compels the regulator to set out the rules carefully in a transparent and open manner and in good time.

³⁹ It is a well known rule-making technique that one way to constrain discretion while maintaining flexibility is to use fewer precise rules and more purposive principles while choosing an appropriately competent entity to interpret and apply them. Cf. Black (1997: 30ff.).

⁴⁰ In the recent contract re-negotiations for the lease contract in Das es Salaam, which one of the authors (Ballance) was involved in, the issue of revenue uncertainty was by far the most significant issue, as opposed to the level of future costs. In an expert determination recently carried out by the other author (Shugart) in a city in

Regulatory regimes, including PSP contractual regimes, use widely different approaches when dealing with future costs. Although the lines between different methods in practice are more blurred than often described in textbooks, one can say that ‘cost-of-service’ regimes put more emphasis on historical costs and future costs as proposed by the regulated company, while subjecting them to prudence tests of one sort or another,⁴¹ while ‘incentive’ regimes focus more on the costs of a hypothetical efficient company or the most efficient observed company.

A wide range of methods are used by regulators to estimate efficient or prudent costs: bottom-up methods (e.g. building up costs component by component; ‘model company’ approaches; ‘standard’ investment projects); partial top-down methods (e.g. cost of a treatment plant based on an engineering cost model and a handful of input and output variables); global top-down methods (historical changes in total factor productivity; parametric or nonparametric production or cost frontier analysis). Some of these methods require considerable discretion on the part of the regulator to ensure that the final results are intuitively acceptable.

Although estimating the reasonable future costs of the water company may be the main goal of the core set of tasks, a price review typically involves other kinds of rules also, which have been developed by regulators for a number of reasons. These ancillary rules deal with issues such as the following, many of which relate to the question of exactly how past capital expenditures are to be rolled forward into the starting regulatory asset base of the new period:

- How efficiency gains are passed on to customers in the following price control periods. These rules affect the strength of the incentives and deal with perverse incentives on the company to front-load or back-load expenditures or cost reductions during a price control period.
- How to prevent the company from benefiting by simply deferring an expenditure, as opposed to finding a lower-cost way to achieve the desired output.
- When to consider certain kinds of costs ‘embedded’ (i.e. locked in by past decisions).
- How to account for minor unexpected additional expenditures during the past period – justified expenditures that go beyond the ex ante assumptions – or minor revenue losses beyond the company’s control (e.g. through ‘logging up’).

Although most conventional regulators like to retain some discretion about how they deal with these issues⁴² and often modify the methods between control periods as ‘best practice’ evolves,⁴³ we envisage these *ancillary rules* to be set out in a precise manner – in many respects as mechanical algorithms – in the rules that govern the expert panel’s work. The

central and eastern Europe, the question of how to estimate future demand for purposes of resetting tariffs also proved to be highly contentious.

⁴¹ E.g.: Was the need for new investments justified? Was the least-cost approach chosen? Were the goods or works procured in the most economic way?

⁴² E.g. despite English & Welsh operators’ wishes to see the ‘logging up’ procedure explicitly defined in their licences, Ofwat has preferred to keep it as an informal practice during the periodic price review. In general, see Alexander and Harris (forthcoming) for a thorough description and analysis of different ways that regulators treat investments.

⁴³ The scare quotes are used here because some would argue that the continual refinement of these rules reflects regulatory creep as much as, if not more than, any real improvement in the quality of regulation.

ancillary rules have a strong policy flavour – e.g. trading off rent extraction with incentives for efficiency – and this should not be the business of the expert panel.

It is more difficult to reduce discretion with respect to the *core rules* needed for a price review – those that govern how to estimate ex ante the reasonable costs of the company for the forthcoming period – but this type of discretion is more technical than policy-related in nature. The core rules governing the price review should walk a fine line between giving the expert panel carte blanche (e.g. reset tariffs in a ‘reasonable manner, all things considered’) and being too prescriptive. The aim is carefully designed *constrained discretion*. Certainly the basic steps and principles – the building blocks – of the tariff-setting approach should be set out in explicit terms to guide the panel. But the panel must have some flexibility to deal with the uncertainties of changing circumstances.

An important decision that may need to be taken by the expert panel will be the allowed rate of return on capital (i.e. appropriate discount rate). There are two types of solution. First, the rules could be designed to require much less discretion than a fully-fledged regulator would normally use – e.g. by specifying an objectively ascertainable benchmark interest rate and a fixed risk premium. Second, as noted above, a government could decide to periodically fix the allowed rate of return – e.g. by requiring the *energy* regulator to determine it for the water sector (if the country has a reputable energy regulator) – and then require it to be used in all tariff reviews for water services.

Although the focus of this paper is on the expert panel’s determination of the tariff level, the rules should also allow the panel to decide certain related matters, including those that will have an important bearing on the *next* comprehensive price review. Such matters might include, depending on the context: investment requirements (to a lesser or greater degree of specificity); cost efficiency targets; and information requirements (e.g. improved methods of gathering or analysing the information to be reported by the company, or special studies that need to be carried out).

The scope of the discretion and the guiding principles for all of these aspects will have to be carefully defined. It will be especially important to avoid being too precise in areas that are intimately intertwined with areas in which the experts are expected to exercise broader discretion. To give one example: Suppose the rules state the overarching principle that the expert panel is to fix the allowed rate of return on total capital at the market cost of capital for comparable companies (elaborating on this to some extent), but the rules also state that the panel should ‘take as an assumption the equity rate of return stated in, or derived from, the company’s proposal at bidding’. Should the panel adjust the residual components as best they can so that the final calculation comes out to the value they believe is correct (i.e. treating the overarching principle as prevailing), or should the panel plug the equity rate given in the bid into their calculation, while determining the other values in the same way they would otherwise do (i.e. treating the specific instruction as a derogation from the overarching principle)? It may not be clear what they should do. Problems like this – and much more complicated than this – can easily arise when broad discretion is conferred on a decision-maker – perhaps in conjunction with a broad principle – but then the discretion is qualified by adding specific constraints.

Conventional regulators in more developed countries often have the resources and the organisational incentive to continually refine the methodologies they use. In contrast, an overarching principle governing the design of the rules for the expert panel would be that, given the enormous needs for extension and improvements of services and additional

investments in developing countries, enhancing regulatory *certainty* is more important than introducing a high degree of regulatory discretion or attempting continually to fine-tune the rules with a view to obtaining that last ounce of technical efficiency or rent extraction.

One advantage of the idea of an expert panel is that the rules governing the price review would not be written by the expert panel itself. This is in contrast with what often occurs with a conventional economic regulator: the regulator often proposes or writes the regulations, rulings or terms of the licence that specify how the price review will be carried out. Such a regulator arguably has an organisational incentive to write rules that will allow it to retain as much discretion as possible – or as much as it can get away with. Separating the entity that writes the rules from the entity that applies them creates an organisational incentive to reduce the discretionary aspects of the rules – to make them sharper.

In this paper, we largely sidestep the question of whether the rules that govern the price review should, in the absence of subsequent agreement between the parties, be fixed for the entire duration of the concession (in the case of a fixed-term concession, as opposed to an indefinite-duration privatisation) or whether there should be a procedure by which an appropriate public authority can impose modifications to the rules, in accordance with a procedure in which the companies have the opportunity to comment on and contest proposed modifications.⁴⁴ There is no one right answer; it depends in part on the degree to which companies have confidence that the relevant public authority will proceed in a fair and impartial manner. In a country in which regulatory risk is considered to be very high, it would be better to treat the rules governing the expert panel as an ordinary part of the concession contract, capable of being changed only by agreement between the parties.

Figure 2 may be useful in thinking about this.

Figure 2. Change or stability in the tariff setting rules

Degree of confidence that operators have in the capability of the public authority to be reasonable in modifying the rules from time to time, following the prescribed procedure	High	A set of sharp rules that are modified periodically (in connection with a price control period)	A set of principles (mainly) that may be modified to some extent (perhaps only in minor ways) from time to time
	Low	A set of sharp rules that are not changed without the agreement of the company (contractual rules).	A set of principles (mainly) that are not changed without the agreement of the company (contractual principles)
		Low	High
		Quality (competence and impartiality) of the expert panel	

⁴⁴ They could contest the new rules as being inconsistent with the overarching primary legislation. They could also contest them if the required procedures were not followed in their adoption.

Summary (Section 4.1)

- A set of substantive rules will be needed to govern the way the expert panel carries out the tariff review. These rules must be carefully drafted bearing in mind the level and types of expertise possessed by the panel. The comprehensiveness of these rules would go beyond what is found in many concession contracts today.
- The core rules concern how to define and determine the *acceptable* future costs of the company, for tariffs will be based largely on this. Ancillary rules are needed to deal with a number of other regulatory issues – e.g. how to share efficiency gains and how to curb various perverse incentives.
- A careful balance is needed. To give comfort to both parties, the rules need to constrain the discretion of the panel sufficiently; yet they cannot (in all respects) be reduced to mechanical algorithms because that would reduce the flexibility of the panel in achieving the broad public policy objectives of the price setting exercise. Given the expertise of the panel, broad principles can be used for many aspects.
- The rules, however, would permit less flexibility than conventional regulators such as Ofwat have. In effect, a trade-off would be made: there would be less flexibility but more certainty about how the panel would decide. This is needed to reassure investors in the context of many developing countries.
- An important issue in designing the scheme will whether the rules will be fixed for the entire duration of the concession (absent the agreement of both parties) or whether they can be modified by an appropriate public body following a specified process of consultation with stakeholders.

4.2 Location of the rules

Where should the rules that govern the activities of the expert panel be located? One possibility, of course, would be for the parties to write them in the concession contract itself – like classic regulation by contract. If the country has no legislation on the subject yet, this may be the only feasible solution. There are drawbacks, however. The rules applicable to the expert panel have to be very carefully drafted, especially since the panel is expected to exercise discretionary judgement in certain respects (see Section 4.1). Drafting and negotiating a complex set of rules on an ad hoc basis, under time pressure to complete the deal, may not be the best solution.

Drafting the rules for the price review will require considerable skill and effort. In addition, the rules should reflect coherent and sound public policy and not idiosyncratic bargaining compromises. Finally, there are good arguments for why a government might want a single set of rules to apply to all water service systems in the country (or to all systems of a certain type). This would also be important if the country were to set up a system of expert panels for this purpose: it would be much simpler and less costly if the panels were to apply the same set of rules to all water companies.

A better idea, therefore, might be for primary and secondary legislation to provide the basic framework of rules to be used to carry out the periodic review.⁴⁵ One advantage is that much more time and effort could go into developing and testing a comprehensive set of rules than transaction advisors could possibly justify, and charge for, in the context of a single transaction. Another advantage of a statutory system is that the degree to which the courts will be permitted to interfere in the decision of the expert panel, if at all, can be explicitly set out in the law – rather than leaving this to the decision of the courts themselves based only on general legal principles.⁴⁶

One drawback of this solution, however, is that it would involve the often difficult and lengthy process of pushing through legislative changes in advance of any new PSP deals. In addition, in some countries there might be considerable complications involved in determining whether and to what extent the new legislative regime would apply to existing PSP contracts.

One possibility would be for the rules to apply as the exclusive mechanism for periodic price reviews. Another possibility would be to allow parties to opt in to the rules, if they wished, by indicating this in their concession agreement. If they did not wish to do so, price reviews would be carried out instead by the statutory regulator, if one existed. By exposing the regulator to competition in this respect, this solution might induce the regulator to improve its performance.

Another idea would be for generic model rules to be developed by an international trade organisation or a multilateral or bilateral development agency. With some minor modifications to suit the particular PSP arrangement, they could then be incorporated into concession contracts by the parties themselves.

Even though the fundamental idea of a contract is a set of mutual promises entered into freely by the parties (a mode of *private ordering*⁴⁷), the idea of the state imposing certain rules on the process or substance of contracts is an old one in the history of law. One could think of the expert panel concept, as presented in this paper, as a *private governance structure* embedded within a *public governance framework*. It is similar to the idea that drove the development of arbitration as a means of dispute resolution. The state provides the rules of the game but does not carry out the function itself. In conventional regulation, the state would provide the rules *and the entity* that regulates the conduct of the companies; in one variant of our expert panel proposal, the state provides the rules that regulate the conduct of

⁴⁵ The law might provide that certain contractual provisions must be included in any concession agreement for it to be valid. For simplicity, we are considering this to be a case where the rules are contained in the law, rather than in the concession agreement itself, leaving the latter expression to refer to cases where the parties *freely* write their own rules in the concession agreement.

⁴⁶ For example, in India there has been a recent movement in favour of dispute resolution methods referred to as ‘tribunalisation’. Indian courts and the Law Commission of India have shown strong support for the creation of specialist, expert tribunals established by statute that have the power to take binding decisions and an obligation to do so within a specified period of time – months rather than years. One goal of these tribunals would be to keep dispute resolution for this kind of case outside the formal court system. Appeal would typically lie to a special appellate tribunal, not the ordinary court system, followed by the possibility of a second appeal to a higher court on substantial questions of law. Conventional regulatory agencies for electricity or telecoms and tax tribunals are classic examples of tribunals of this kind, but there is no reason why other kinds of specialist tribunals could not be established. (Personal communication, Amit Kapur, 30 May 2005.)

⁴⁷ Cf. Trebilcock (1993: 1ff.).

specified *private entities* that, in turn, regulate, within a limited scope, the conduct of the companies.

Finally, we should mention that, although this paper often refers to the concession or PSP ‘contract’, there is no inherent reason why the basic mechanism of the expert panel could not be used in conjunction with a regulatory regime based on licences or ordinances issued by a public authority, as opposed to contracts agreed between a public authority and the company. Which of these approaches is better in a given country context depends on many factors, and a discussion of this topic would take us far beyond the scope of the present paper.

Summary (Section 4.2)

- The rules that govern the price review to be carried out by the expert panel could be written into a concession contract by the parties, or they could be specified in primary and (mainly) secondary legislation.
- There are a number of advantages to a regulatory regime in which the basic rules for price reviews are specified by law – especially uniformity of approach and the care that can go into writing the rules.
- One idea would be for a trade association or multilateral or bilateral development agency to develop a generic set of such rules that could be adopted (with minor modifications) by countries or parties to a concession agreement.
- The mechanism of the expert panel could also be used in a regulatory regime based on licences rather than contracts.

4.3 Selecting the panel

The expert panel must be multidisciplinary. We suggest that there be three members with the following types of expertise:

- a *chairperson*, a regulatory expert with strong skills in economic regulation, contract interpretation and mediation (or similar), and in management of the process;
- a *technical member*, with a good understanding of the management and operation of water companies, performance indicators, etc., and investment planning and costing;
- a *financial member*, with expertise in financial modelling, regulatory accounting systems and corporate and project finance.

The parties’ preferences as to the choice of members should be accommodated as much as possible. The multidisciplinary aspect favours some methods of selection and disfavours – or entirely excludes – others. For example, a common method for appointing tripartite dispute boards requires each party to name one member and then for these two party-appointed members to name the third. This will not work well if three different disciplines are required; and moreover, this method often tends to result in two partisan party-appointed members and a neutral third member who often ends up having to play the role of mediator between the other two members – not what is desired. A better way might involve the short-listing of candidates by a respected organisation and then a process of selection by the two parties.

Getting the right balance in the procedure is a tricky business. It is important to reflect the parties' preferences as much as possible while still ensuring good control over quality. The only way for the process and decision to be considered legitimate is if the parties are satisfied with the choice of experts.

Annex 1 gives an example of such a procedure, taken from the Sofia water system concession agreement, signed in 1999, and based on precedent from other dispute resolution procedures.⁴⁸ This example is given not to recommend it, as is, for other PSP arrangement but simply to show the kind of thought and detail that needs to go into the design of these mechanisms.

A respected appointing authority of international stature,⁴⁹ agreed in advance (e.g. in the contract), would ensure that only competent and independent panel members are selected and that a stalemate in selection could not occur – e.g. by selecting the expert itself in case of deadlock or by providing a pre-qualified shortlist whose names would be ranked by the parties.

Another important reason for using a respected appointing authority to short-list candidates is to avoid the bias that might develop if the members of the expert panel were selected freely by the parties. International water companies will be repeat players in this business. Experts would understand that if they decided a case in a way that pleased the company, they would have a greater chance of being selected again in another case involving that company. If they please a particular city, there is less reason to think that they will have a greater chance of being selected by another city in another case. This potential for bias could be offset if an international appointing authority played a short-listing role. It would be a good idea, too, if the appointing authority carried out evaluations after the fact by sending the parties questionnaires about how the experts conducted themselves and how the parties assess the outcome.

It is clear that there are significant economies of scale in the activities of the appointing authority that would carry out the short-listing of candidates. The costs of start-up and drawing up the first short-list would be prohibitive for only one client. The system must be set up and operated on a subsidised basis during the first few years to attract customers. In a large country, such a system could be established to cover a number of water systems. Multilateral and bilateral development agencies could play an important role in setting up such systems.

The three members of the panel would carry out much more of the actual work of the price review than regulatory commissioners typically do. Nevertheless, they would not be able to do all the work themselves. They will need to engage consultants to carry out some of the tasks. Some consultants may be needed for highly specialised aspects that might arise (e.g. a technical specialist to assess the results of computer modelling of the drainage system if the parties disagree about this, or a legal expert in the unlikely event that a party raises an issue of national law), but most of the consulting time will be needed for the basic analysis of the technical and financial data. Although the expert panel should be given considerable

⁴⁸ One of the authors (Shugart) played a role in drafting these provisions.

⁴⁹ In some countries, investors might feel comfortable enough if a reputable *national* appointing authority were used.

discretion as to the types of consultants they hire and the extent of the input needed, the rules should set out some indicative guidance (e.g. about the specialists that would normally need to be engaged) and reasonable restrictions (e.g. a budget cap that could be exceeded only with the agreement of the parties) to help manage expectations.

Summary (Section 4.3)

- A multidisciplinary panel is proposed, with three members.
- A respected independent appointing authority would prepare short-lists of candidates, from which the parties would select the three panel members.
- The panel would need to engage assistants and consultants to provide support for the price review exercise.

4.4 The process of a price review

4.4.1 The basic process

The rules contained in the concession agreement (or contained in regulations issued by a public authority) would need to outline the procedures to be following in carrying out the price review and the effect the decision will have, while leaving the details to be freely decided by the panel.

As for the legal effect of the panel's decisions, an essential aspect, in our view, is that the expert panel must be empowered to take a *binding* decision. If the panel only gives a recommendation, this leaves the door open to a continuing dispute, as recently happened in Jakarta when the independent combined expert team were contracted to re-determine the water tariff and charges for the two concessions and the recommendations ended in further negotiations and disagreements between the parties, going on for several months.⁵⁰

There are several different alternatives for how the expert panel would interact with the parties. One possibility is that the parties would attempt to carry out the price review themselves and then the panel would be brought in only if the parties could not reach agreement. In that case, the expert panel comes in to adjudicate a dispute. We are not in favour of this idea. A comprehensive price review is too complex. The risk is too high – especially if the local authority is unsophisticated in these matters – that the parties will get bogged down in numerous and confused disagreements and that their positions will harden before the case goes to the panel, poisoning the future relationship of the parties.

Another alternative would be for the panel to conduct the review itself, using the parties only to provide relevant information – an inquisitorial style. Once again, we do not prefer this approach. The process should instead attempt to bring the parties along with the expert panel so that they understand and accept the solution as being fair and legitimate.

We therefore propose another method, one in which the panel works intensively with the parties step by step, irons out misunderstandings, and tries to get them to agree on methods and quantitative values as the process moves along. The first stages would involve a large

⁵⁰ One of the authors of this paper (Ballance) was the team leader for this assignment.

measure of facilitation and education. The ultimate tariff determination would be broken into a series of narrower decisions to be taken sequentially – a building block approach. But if the parties finally cannot agree on a particular narrow issue, then the panel would be obliged to take a *binding* decision.⁵¹

To those readers familiar with alternative dispute resolution (ADR) methods, this may seem too close to the controversial ‘med-arb’ method, a procedure in which the same person plays the role of mediator and then arbitrator (see, in general, Berger 2003). Two main problems have been raised with med-arb. First, if the parties know that the mediator will finally act to give a binding decision, they may be less forthcoming in their discussions during the mediation phase. Second, when she comes to adjudicate the case, it may be difficult for the dispute handler to ignore confidential information received during the mediation phase – information to which the other party has not had the opportunity to respond. This would contravene basic principles of procedural fairness.

We do not believe that these concerns are relevant in the case of an expert panel carrying out a price review. There are two reasons. First, there is no dispute yet – no one is claiming that the contract has been breached – and the issues are highly technical. The questions to be considered are like the following: If the operator invested and operated efficiently, what level of investments in tertiary water mains would be needed to reduce leakage to arrive at the given target? What should the impact of investment expenditures in year t be on the tariff profile over time?

Second and most important, for these kinds of issues there is no reason why either party should need to communicate confidential information to the expert panel. If all documents submitted by one party are copied to the other party and the panel is obliged to make available to the parties all the information it uses to reach its decisions, we do not see why the panel cannot play a useful role by working with the parties step by step, trying to get them to reach agreement but then if they cannot, deciding the values required at each step. It should be clear that the first part of the process consists of *facilitation* more than mediation: an educational process to allow the panel to see the two parties’ points of view and to enable the parties to see the panel’s point of view.

In keeping with the more informal nature of expert determination, as compared with arbitration, the panel might decide that it would be useful in a specific instance for a panel member to meet separately with a party to facilitate understanding of the issues or help encourage agreement between the parties, so long as the other party is informed.⁵²

In connection with the use of the expert panel, it is very important that a systematic monitoring system be set up to gather (and have audited) relevant data about the water system and the company’s performance during the years preceding the periodic review. In addition to other purposes to be served, this information, in a systematic form, will be essential for an

⁵¹ This does raise the problem of how the expert panel should handle the overall tariff determination to avoid inconsistency if the parties agree between themselves certain values in the tariff calculation that are different from the values that the panel would have determined, since the various elements may be interdependent. We would expect that the benefits of the parties being able to reach agreement on certain issues would normally outweigh any such problems, however.

⁵² For this aspect of English expert determination, see Kendall (1996: 135). Separate meetings with a party are permitted under the ICC Dispute Board Rules and in British statutory adjudication for construction contracts.

expeditious and non-contentious tariff review. One part of the decision of the expert panel in a price review could consist of modifications to the requirements for the information that must be collected and reported leading up to the next periodic review.

It is apparent that the ability of the expert panel to manage the process with skill and pragmatism will be crucial to the success of the intervention, and this will put great demands especially on the chairperson.

A final issue is whether, and to what extent, the process should be public. There are two models. Arbitration, dispute review boards and expert determination all tend to place a high value on secrecy. This is one of the reasons why arbitration is often preferred to litigation. The other model is that of a conventional economic regulator. Whether or not there are formal public hearings, open discussion of issues and decisions is becoming a hallmark of good regulation – an aspect of transparency.

We believe that the report of the expert panel that sets out and justifies the new tariffs should certainly be made public. But we do not propose that the expert panel should interact directly with the public, either through public hearings or written responses to submissions from the public, or otherwise. The reason for this view relates to the way the mechanism has been designed to unbundle, as much as possible, policy issues from technical issues (see Section 6.1.2). In the public authority's deliberations about how rapidly to increase the stringency of the service standards – which will have an impact on the level at which the expert panel sets tariffs – the public authority should engage in discussions with stakeholders, and if the public authority wishes, hold public hearings to debate the issues. But finally it is the decision of the public authority about these matters that goes to the expert panel. Similarly, if the expert panel submits a draft report to the parties and asks for their comments before finalising it, it is the responsibility of the public authority, if it wishes or is obliged, to solicit opinions from stakeholders before sending its comments to the panel.

Dragging the expert panel into all of this would confuse its role and push it more towards acting like a conventional regulator. But it is highly uncertain whether a non-governmental body of this kind can maintain its legitimacy if it begins to engage in policy and political debates with the public before taking its decisions. (See further discussion of legitimacy in Section 6.3.)

Summary (Section 4.4.1)

- The expert panel would be empowered to take a binding decision, not just give recommendations.
- Nevertheless, the panel would work intensively with the parties, step by step, trying to get them to agree on methods and values as the process moves along.
- The expert panel's report would be made public, but it would not be the responsibility of the panel to involve the public or particular stakeholders in the review process. This should be the responsibility of the public authority, to the extent that this is warranted (or required by law).

4.4.2 Helping the parties achieve better solutions

There is often a tension in adjudication between the wish to respect the governing rules that have been set out *ex ante* and the wish to do justice, *ex post*, based on all the facts of the case – a topic that legal scholars have debated for years. Our preference is for an expert panel that adheres strictly to the rules (including broad principles) set out in the governing legal instrument in giving a binding decision about tariffs. We do not believe that the expert panel should impose its own opinions about policy or commercial matters, or in contradiction with the stated rules impose its own views about what is fair and just. This would undermine the confidence that the parties have in the expert panel arrangement.

Nevertheless, the expert panel is in a good position to be able to *propose* solutions to the parties that it thinks are better than what it would otherwise have to decide in a binding way (i.e. Pareto improvements). The panel will have to grapple with how to apply the rules to circumstances that may not have been envisaged by the parties at the time they developed the rules. In some cases, it may be possible for the panel to fill a latent gap in the rules with the rule that, in the panel's view, the parties *would have* included had they considered the matter. But in other cases, it may be difficult for the panel to justify this tactic of rule construction. In those cases, the panel should be free to suggest other solutions.

Three examples will show how this might work. *First example:* Suppose that, based on the service standards that the public authority has specified, the expert panel finds that tariffs will need to be increased to a level that it believes may be socially unacceptable. Suppose that the expert panel feels that phasing in more slowly the very stringent standards that have been set for leakage would be a low-cost way to bring future tariffs down and reduce the significant risk of social protests. For example, the city engineers may have become fixated on the leakage targets and may be ignoring the fact that there is no water resource scarcity in that area and so the economic cost of raw water is very low. As experts, it would be good for the panel to be able to explain their opinions to the parties to help them see the issues in a different light.

Second example: Suppose that the rules give some flexibility as to the *profile* of the tariff level over time when a large increase is needed, so long as the different possible profiles are equivalent with respect to the financial position of the company (in present value terms). Suppose the rules urge the parties to try to agree on the time profile but then go on to specify the shape of the profile if the parties cannot agree otherwise – e.g. in real terms, ramped up by no more than *X%* per year until tariffs reach a steady state. The expert panel could play a useful role, on the one side helping the company appreciate surveys that have been carried out (by others) describing customers' willingness to pay for service improvements and the social acceptability of tariff increases, and on the other side helping the public authority understand the constraints that the company is likely to face in restructuring its financing in the face of changes in the tariff profile.

Third example: Suppose there is a good deal of uncertainty about a key future parameter such as the availability of an important raw water source that is outside the control of the private operator (i.e. a public authority is responsible for providing water from this source). Should the panel allow additional costs – perhaps high costs – for the company to provide an alternative source or not allow these costs, thus running the risk that the private operator will not have a reliable source of raw water in the future. Ideally, the contract (or licence) should deal with the responsibility of the public authority to provide adequate quantities of raw water and the consequences if it is reasonably *forecast* that the quantities are not likely to be

sufficient.⁵³ But if this contingency has been overlooked (and the contract cannot anticipate all contingencies), the panel will be bound to decide the issue in terms of the existing rules, but in addition it could discuss the problem with the parties and perhaps facilitate an agreement between them (an amendment to the concession contract) that deals with the problem in a more satisfactory way.

We see no reason why the process cannot be structured so that the panel can play this kind of role. This is not like a typical arbitration; there is no dispute and no one is at fault. Most important, these examples show that this is not a case of exploring with the parties different outcomes given the same formal rules and same set of facts – what typically happens in mediation. Instead, the rules here *explicitly* allow one or both parties to change certain inputs that go into the panel's decision process. All the panel is doing is exploring with the parties different ways that they might do this and what the consequences might be.

What is important is that the panel must make it very clear that, if the parties do not agree otherwise, the panel will ultimately decide by the fall-back rules ('default rules'). In fact, if an issue is clearly separable, the best way to proceed might well be for the panel to decide the particular issue *first* (tentatively) using the default rule and then discuss with the parties whether they really want that solution – with all that it entails.

It is useful to look more deeply at why an approach that involves the panel first disclosing to the parties how they would be obligated to decide under the contract might work in the context of a long-term concession. In a simple, single-transaction contract, once the parties know exactly how the adjudicator would decide a particular case, the chances of a different settlement are reduced: Why should the winning party now agree to settle for less? It is the uncertainty of the adjudicator's decision that helps push both parties to settle.⁵⁴ But a long-term concession is a continuing business relationship: a party may well decide to give in to some degree in one episode if this increases the chances of benefiting from a harmonious, productive relationship in the future. For this reason, disclosing the expert panel's default position is not likely to dampen the parties' willingness to agree to another solution. In fact, it might even encourage them to do so.

The substantive rules that govern the expert review should set out clearly which rules are *mandatory* and which are *default*.⁵⁵ For example, it would probably make no sense for the rules to specify the method of calculating the cost of capital and then to state that the parties are free to agree otherwise. One important conclusion – a conclusion that arises repeatedly in this paper – is that the substantive rules should be written in a way that takes into

⁵³ In a concession contract, such an event might be a trigger for an extraordinary tariff adjustment. In the case of Ofwat, in addition to the general provision for so-called interim determinations, there is also a mechanism of 'notified items' where the occurrence of a specific event can be a contributing factor to an interim determination. A recent example is where the currently estimated number of water meters to be installed goes above the initially projected level.

⁵⁴ For this reason, if an arbitrator is going to switch to the role of a mediator *after* he has reached his decision about the outcome, one technique is for him to place the final award in an envelope on the table and to open it only if the parties cannot reach a settlement (Berger 2003: 395). This avoids attempting to mediate a settlement when the parties already know exactly what the fall-back outcome is.

⁵⁵ If the rules are statutory, this has clear legal consequences. If the rules are purely contractual, the parties can always amend them, but explicitly signalling to the parties that they can agree otherwise can facilitate this in a way that does not require a formal amendment to the contract.

consideration how the rules will be processed and adjudicated – namely, by the expert panel. Indicating explicitly with respect to certain decisions that the parties can agree otherwise is a signal for the expert panel as much as for the parties.

Finally, one of the tasks given to the expert panel might be to recommend changes to the substantive rules that would govern future price reviews, if they believe that changes are warranted. It is likely that each price review will bring out gaps and ambiguities in the rules that the parties were not aware of or did not pay enough attention to.

Summary (Section 4.4.2)

- In addition to taking binding decisions based on the rules, in some cases the expert panel should encourage the parties to explore and agree solutions that are more beneficial.
- The rules governing the price review should make it clear which decisions are subject to the agreement of the parties; but they must also make it clear how the panel should decide if the parties cannot agree.
- The panel might be given the additional task of recommending changes to the rules that would govern *future* price reviews.

4.5 Enforcement and appeal

With respect to enforcement, it is important to note that, if the expert panel has been created by contract, a party cannot enforce the decision of an expert in the same way that it can enforce the award of an arbitrator. Under the law of most countries and international treaties, a party can apply to the court to enforce an arbitrator's award. In contrast, the binding decision of an expert is considered, in effect, as if it were an amendment to the contract. To enforce it, therefore, a party would have to follow the normal dispute resolution procedures in the contract. The other party's refusal to comply with the expert panel's decision would then be considered to be a breach of contract. In the case of an expert panel established by statute, enforcement procedures would be specified in that statute. Although this could have advantages, one drawback is that the statute provisions, if they are novel, would be untested in the courts. In contrast, the procedures for the enforcement of arbitration awards are likely to be more firmly established in the country.

Expert determination (in many countries) can be made binding *and final*, in the sense that no 'appeal' of the substance of the case is permitted.⁵⁶ This would not exclude appeals on the grounds of serious irregularity, such as fraud or *prima facie* (obvious) error on the part of the expert. In England, for example, case law holds that the decision of an expert can be challenged if the expert addressed the *wrong question* – as opposed to answering the right question in the wrong way.

This does not exclude providing for a review at a higher level (what we will refer to loosely as an 'appeal'). The parties could, for example, design the procedures so that they can take

⁵⁶ Technically speaking, the terminology is not quite right. The decision of an expert is not really *appealed* through the judicial system; the dissatisfied party instead brings an action against the other party for breach of contract if the other party does not comply with the decision of the expert. The term 'appeal' is used here in a loose, informal way.

the case to arbitration, with the decision of the expert being binding until, in effect, being overturned by the arbitrator.⁵⁷

There are several problems with allowing for a full review (de novo hearing⁵⁸) by an arbitral tribunal of a comprehensive tariff adjustment decision. One purpose of using an expert panel is to have a speedier and less costly process. If the losing party frequently appeals to the arbitral tribunal, this advantage will be removed. It would be reasonable to assume that to some extent (and perhaps to a large extent) the losing party will assume that the arbitrators will decide in the same way as did the experts, and so the losing party will not appeal. However, this effect might be diminished given the considerable amount of discretionary judgement involved in the expert panel's decision: i.e. the losing party might feel that there is a large random element to the decision, and so having another go at it is to some extent like throwing the dice one more time if the initial throw comes up too low.

A more telling criticism of providing for a de novo review in arbitration, however, is that arbitration is not well suited to deal with comprehensive tariff reviews. So it might greatly diminish the advantage of the expert panel if the losing party could seek a de novo review in arbitration.

But this leaves us with a problem. Tariffs are an especially sensitive issue. What if the expert panel has made a decision that would strike most reasonable and informed people as being clearly wrong? If the system we propose is to be perceived as legitimate and hence robust, we have to find a way to prevent it from being repudiated by a public authority that rightly considers that it has produced a grave injustice. So it would be advisable to build in some kind of appeals mechanism to bolster accountability and reassure customers, politicians and investors.

One proposal would be to use conventional international arbitration as the appeals mechanism, but with a more limited scope of review. Fortunately, there is a possible precedent: the relation that is found in some countries between a regulator and the appeals tribunal – e.g. in the U.S. between a state public utility commission (PUC) and the courts. After a good deal of judicial experimentation in the early years of the 20th century, a standard was adopted according to which the courts would largely defer to the PUC's judgement in regulatory matters within the bounds of the relevant legislation. The reasoning behind this was the same as our rationale for not wanting a de novo review by arbitrators of the expert panel's decision – a question of appropriate expertise. The standard that was finally adopted in the U.S., through Supreme Court cases, looks at whether the decision of the regulatory commission is within its legislative mandate, whether the commission has followed the methods and procedures that the commission has set for itself, whether the decisions are

⁵⁷ The idea of the decision being *binding* until overturned by the arbitrator can have important consequences. For example, suppose that the expert panel decides that tariffs should be increased by X. Suppose that the city does not do so and they take the case to arbitration. The arbitral tribunal then decides that no increase is justified. If the contract provides for interest to be paid on sums due by either party to the other and this applies also to tariffs, then the city would have to pay interest to the concessionaire on the additional tariff revenue the concessionaire would have received if tariffs had been increased by X during the period of time between the expert's decision and its overturning by the arbitral tribunal – because the expert's decision was indeed *binding* during that period. This concept encourages parties to comply with the expert's decision even if they go on to challenge it.

⁵⁸ In a de novo hearing, the adjudicator starts afresh and is not bound in any way by what the lower tribunal found or decided.

supported by evidence that would be acceptable to a reasonable person (‘substantial evidence’ in U.S. legal lingo), and whether the commission has given reasoned consideration to the various objectives to be served by good regulation but without the court supplanting the judgement of the commission on these matters.⁵⁹

What we would propose, therefore, is that the arbitrator could overturn the panel’s decision only if there has been abuse of discretion in the following sense (roughly speaking – this would have to be drafted in more detail and with much greater care): (i) there has been a serious error of law (i.e. one that would cause a substantial injustice to the party); (ii) no reasonable person having the requisite expertise could reach the panel’s decision given the facts as set out in the record; or (iii) there has been gross non-compliance by the expert panel with the procedural rules governing the expert review.⁶⁰

In effect, this defines a *zone of reasonableness* and says that the arbitrator will take action only if the result falls clearly outside that zone.⁶¹ The arbitrator will not engage in fine tuning.

This solution provides a much better fit with the decision process of arbitrators. Asking arbitrators to fix a precise tariff level in a comprehensive price review, based largely on opinions presented by a parade of expert witnesses hired by each party – and possibly by the arbitrators, too – is a recipe for a nightmare.⁶² Asking them instead to decide whether the expert panel’s decision goes beyond the bounds of reasonableness (given the terms of the contract, interpreted in the light of internationally accepted regulatory theory and practice) may present a challenge to be sure, but is the kind of decision that experienced arbitrators know how to handle well by hammering away at the expert witnesses. This illustrates a point made earlier on in this paper: there must be a good match between the nature of the dispute handler and the type of dispute brought to it.

A procedure like this should enable any outrageous errors to be corrected. It will help confer legitimacy on the procedure. In addition, it will encourage the expert panel to explain their methods and reasoning thoroughly in their report. Finally, allowing this kind of review might forestall the courts from devising ways to intervene in expert panel decisions to protect the public interest.

An important legal question is whether arbitrators can be asked to carry out a limited-scope review of this kind. Of course, parties cannot normally ask a *court* to limit the scope of its review, but arbitration is different; arbitration is a mixture of aspects that are decided by law

⁵⁹ Cf. *Permian Basin Area Rate Cases*, 390 U.S. 747 (1968).

⁶⁰ These three aspects – illegality, procedural irregularity and gross unreasonableness – also correspond roughly to the common law criteria used in England for judicial review of administrative decisions. The detailed design work for the expert panel arrangements and rules should review the concepts and experience of judicial review in a number of major legal systems – especially in connection with regulatory decisions – in preparation for drafting the rules for ‘appeals’ from expert panel decisions.

⁶¹ The U.S. Supreme Court used this very phrase in the *Permian Basin Area Rate Cases*: ‘... courts are without authority to set aside any rate selected by the Commission which is within a zone of reasonableness.’

⁶² It is the comprehensive, all-things-considered, nature of this kind of tariff review, not the fact of a tariff adjustment per se, that makes it so difficult to be dealt with in conventional arbitration. Price review clauses of a more straightforward nature are frequently referred to arbitration.

and aspects that are decided by the parties.⁶³ The parties have much more control over arbitration, by the terms they write into the arbitration clause, than over a judicial procedure.

There is no reason why a well-crafted arbitration agreement providing for a limited review of the expert panel's decision in a comprehensive tariff review would not be acceptable under the law of most Western countries – common law or civil law traditions. It remains to be seen, however, whether it would meet more resistance under the law of many developing countries.

There is, of course, the further problem of how the national courts would respond to a challenge of the arbitration award by the losing party. But this is a general problem encountered in the use of arbitration as a dispute resolution mechanism, especially in developing countries, and is beyond the scope of the present paper.

Summary (Section 4.5)

- The decision of an expert panel that has been set up under the contract is not enforced in the same way as an arbitrator's award. The party who claims that the other party has not respected the panel's decision must make a claim against the nonperforming party in accordance with the dispute resolution procedures in the contract.
- Many legal systems accord a high degree of finality to the decision of a third party expert in this context. The expert panel mechanism will be more problematic in jurisdictions in which courts will want to second guess the decisions of the expert.
- Tariffs are so sensitive an issue that it might be good to allow for some kind of 'appeal' from the decision of the expert panel. Allowing a full appeal (de novo review) by an arbitration tribunal would weaken the advantages of using the expert panel in the first place. It may be possible to provide for a more limited review that, in effect, creates a zone of reasonableness: so long as the arbitral tribunal finds that the panel's decision is within that zone, they must let it stand.

4.6 Cost

Establishing and operating an expert panel would involve considerable costs. First, there are the costs of retaining the experts on an annual basis to assure availability if their services are required for extraordinary reviews (see Section 3.5). As noted in Section 3.2, for a panel of three members the cost could be over US\$150,000 per year. The ideal solution, in terms of cost, would be to use the same expert panel for a number of concessions; this could drive down the minimum retainer to just a nominal amount – essentially a membership fee. As the number of concessions increased, one would have to retain more than one expert for each of the three positions, but these additional costs could in turn be spread over a larger number of concessions.

The second type of cost relates to undertaking the price review itself.⁶⁴ As a ball-park figure, for a complex service system (typical of a large town or city), if foreign experts are used this

⁶³ Arbitration started out its history being much more fully a 'creature of contract' – i.e. almost wholly dependent on what the parties put in the arbitration clauses. But states have encroached to some extent on the parties' freedom to design arbitration procedures as they like. Most countries have special arbitration laws.

is likely to cost upwards of US\$200,000,⁶⁵ depending upon the fee rates of the experts, among other things. A comprehensive tariff review is not a simple exercise and would take somewhere in the range of 3–6 months to complete. The exact cost will of course depend upon the availability and quality of data, the quality of the personnel from the contracting parties, the location and a number of other factors.

Given that the annual cost of operating a conventional water regulatory office in a developing country can typically be around US\$300,000 for smaller offices with limited regulatory functions, and far more where the functions are more extensive and involve periodic price reviews involving private firms,⁶⁶ the overall cost of establishing and operating an expert panel is likely to be cost-effective particularly if a number of concessions are included in the scheme.

These estimates ignore the costs involved in developing the details of the arrangement to the point where it can be implemented and of adjusting and fine-tuning it during the first few years of operation. There is a good argument that these set-up costs should be subsidised by an interested multilateral or bilateral development agency. The institutions that will form the basis of a sound, functioning expert panel should be considered to be a public good.

Summary (Section 4.6)

- The costs involved in setting up and operating an expert panel along the lines proposed in this paper will be substantial.
- The cost can be reduced a great deal if the system is used for a number of concessions. This would occur, for example, if a country decided to develop a system that could be used by the entire water sector.
- A major obstacle is the one-time cost of developing all the arrangements and rules to the point where the concept is ready to be implemented. This cost could be borne by an interested multilateral or bilateral development agency.

5. PRECEDENTS

5.1 Expert determination

Expert determination is the term used in English law to refer to a wide variety of methods for the binding resolution of contractual issues or disputes by a third party who is not acting as an

⁶⁴ Not all of these costs would necessarily be additional to the basic retainer. The retainer could be conceived as a *minimum* to be charged for each month so that it would not be charged if actual costs exceeded it for the period in question.

⁶⁵ This was the rough cost of the independent combined expert team that undertook the tariff renegotiation in Jakarta, Indonesia, for the two concession contracts in 2003–04, which was led by one of the authors (Ballance). This involved the use of three senior experts (two regulatory experts and one financial analyst), but it may well have been beneficial to have included a senior technical expert in addition.

⁶⁶ The regulator in Zambia (NWASCO) has an annual budget of around US\$300,000 as does the regulator in Jakarta, Indonesia, with staff contingents of around 13–15 people each. In contrast, the regulatory office in Manila (MWSS) reached an annual budget of around US\$2.3 million in 2002, where the functions are far more extensive.

official arbitrator.⁶⁷ In principle, expert determination is usually designed to give a conclusive and final decision, but it will still be subject to limited review by a court, the scope of which will depend on national law.

The technique of expert determination is used in other countries, too. For instance, French courts have consistently upheld the idea that private-law contractual parties are free to design their own dispute resolution procedures.

Three common threads link the different varieties of expert determination. First, the adjudicators use their own technical expertise, instead of, or in addition to, relying on other experts. Second, the procedures to be followed are more informal than judicial procedures. Third, normally the mechanism is purely contractual: it depends entirely on what the parties have agreed; it is as if the third party were simply writing an amendment to the principals' contract. As such, this method is particularly appealing if the goal is to give the parties the freedom to decide how and by whom contractual gaps will be filled; it corresponds well with a justification for contracts based on decentralized decision-making by economic actors – the 'private-ordering' model. (We will see below, however, that some of the newer forms of expert determination are established by law.)

Expert determination is commonly used when the issues are primarily technical or involve questions of valuation or complex calculations involving expert judgment (e.g. valuation of a company's stock). It has been used for the periodic readjustment of prices in long-term commodity contracts. All of this makes it an interesting model for our purposes since in many cases of the kind we are considering, there is no disagreement over issues of law.

Traditional expert determination focused on issues of *valuation* – often the market value of a property or asset. The newer varieties of expert determination use an expert to resolve a broader category of issues or disputes. The common theme is that a neutral third party who is not an arbitrator uses his own expertise to resolve specified issues following a relatively informal and inquisitorial procedure.⁶⁸

5.2 Dispute review boards

Dispute review boards (DRBs) began to be used in the U.S. in the 1960s for large, complex construction projects. They have had good success in dealing with disputes and are becoming widespread in many parts of the world. Typically, a DRB consists of three independent, neutral persons — usually having technical expertise — chosen by the parties at the start of the contract. The DRB makes visits to the job site every few months, regardless of the occurrence of a dispute. When a dispute does occur, the DRB conducts informal job-site hearings and then issues written recommendations, together with any explanations, which are usually not binding but are admissible as evidence in any later proceedings. Experience, at least in the U.S., has shown that most DRB decisions are adopted by the parties without the need for subsequent litigation or arbitration.

⁶⁷ See, in general, Kendall (1996).

⁶⁸ In this context, 'inquisitorial' means that the expert plays an active role in gathering evidence and ascertaining the facts. It is contrasted with the 'adversarial' procedure typical of the common law judicial system (and often international arbitration) in which the parties have the task of presenting issues of law and fact to the adjudicator, who then evaluates the merits.

Although the so-called ‘American model’ uses the DRB to give non-binding recommendations, where the board’s decision is binding one could think of this method as a form of expert determination.

The DRB makes its decisions on the basis of the contract, applicable law, and all the facts and circumstances of the case. Most of the disputes brought before DRBs have a high factual, as opposed to legal, content. Construction contracts that have been carefully drafted (which one might expect for large, complex projects) show a high degree of completeness. Disputes often turn mainly on factual determinations, where it is relatively clear what the contract requires and what the legal consequences will be once the facts are discovered. For example: Did the owner’s construction plan show all the reinforcing bars that would be needed by the contractor to construct the intended works? Did the contractor obtain the written approval of the engineer before installing certain materials?⁶⁹ Where interpretation of the contract is not straightforward, the rules and techniques used for ordinary contracts will generally suffice.

The DRB has been incorporated into several model construction contracts. Beginning in 1995, FIDIC began including dispute board provisions into its model construction contracts; the board is referred to as a ‘dispute adjudication board’ or ‘DAB’. Also in 1995, the World Bank included a dispute review board in its revised standard bidding documents for the procurement of works. In both the FIDIC model and the present World Bank model, the decision or recommendation of the board becomes binding if neither party expresses dissatisfaction within a certain period (28 days for FIDIC and 14 days for the World Bank).

The International Chamber of Commerce (ICC) has issued its own Dispute Board Rules, effective as at September 2004. These are conceived as rules that can be adopted by parties to any kind of commercial contract. The ICC provisions provide two basic models: one in which the board issues ‘recommendations’ that become binding if no party expresses dissatisfaction within 30 days; and one in which the board issues ‘decisions’ that are immediately binding. But decisions can also be challenged in arbitration if either party expresses dissatisfaction within 30 days.

In the past decade, it has become more common to see DRBs being incorporated into long-term concession or PPP contracts.⁷⁰ In India, for example, a number of recent PPP contracts include non-binding DRB-type mechanisms as a precondition to arbitration. An example from the Sofia water concession is described in Section 5.6.3.

Even though the expert panel proposed in this paper is different in a number of ways from the dispute review board, it is of interest to see how courts in different countries treat the decisions of DRBs when they are intended to be binding, and in some cases conclusive, because this may help us understand how the courts would react to the tariff-setting decisions of expert panels. One recent reviewer (Knutson 2004) concluded that well-crafted DRB agreements should be acceptable in the major common law and civil law jurisdictions. This is a hopeful sign.

⁶⁹ See Matyas (1996: 146, 150).

⁷⁰ Communication with Peter Chapman, 9 June 2005.

5.3 Statutory adjudication in construction contracts in Great Britain

Beginning in 1998,⁷¹ parties to most construction contracts in Great Britain (England, Scotland and Wales) were given a statutory right to refer any dispute to ‘adjudication’, a quick method involving one person, chosen by the parties (or by a nominating body designated by the parties), as the adjudicator who gives a decision that is binding until the dispute is finally determined by the court or in arbitration.⁷² Decisions are given within 28–42 days. If the decision of the adjudicator is not challenged, then it becomes final.

Despite initial qualms by many, interim adjudication in construction contracts in Great Britain has become accepted and its use is increasing. The initial years of experience highlighted some problems, and solutions to these are now being developed and implemented.

The relevance of *statutory* interim adjudication to the notion that the law in a country could provide the framework for expert panels is clear.⁷³ The law does not designate the entity that will decide the dispute but sets out the broad framework that must be followed.

5.4 Industry-specific arbitration

There are similarities also between the idea of expert panels and the special arbitration procedures organised by certain trades and industries. Arbitration originated centuries ago as a non-judicial means of resolving disputes between merchants. The tradition of specialist tribunals continues. A large proportion of the world’s shipping disputes, for example, goes to arbitration under the rules of the London Maritime Arbitrators’ Association. There are numerous commodity associations that have developed their own procedures and organizations for arbitration – e.g. in diamonds, grain, peanuts, cotton, rubber and tea – in which respected members of the trade serve as arbitrators. In some systems, there is little or no involvement by lawyers.

An example that has some similarity with the topic of the present paper is rent review arbitration, as carried out in England. A commercial lease of, say, 25 years typically provides that an independent third party, a chartered surveyor, will (in the absence of agreement by the parties) reset the rent every five years, based on comparable market prices. Depending on what the lease agreement says, the surveyor acts either as an arbitrator or as an independent expert, the main differences being procedural and the legal effect of the award or decision. In both cases, the surveyor can make use of her own expertise.

Associated with some of these specialised arbitration tribunals are industry-specific contract rules, sometimes referred to as ‘private commercial law’.⁷⁴ These have been extensively studied, and one conclusion that has emerged is that they tend to consist mainly of bright-line

⁷¹ The Housing Grants, Construction and Regeneration Act was enacted in 1996 and came into force on 1 May 1998.

⁷² See, in general, Redmond (2001).

⁷³ We will use ‘interim adjudication’ to refer to this special dispute resolution procedure, or ones that are similar, and retain the conventional, broader meaning when we use ‘adjudication’ without any qualifiers (see footnote no. 3).

⁷⁴ See Bernstein (1998).

rules. One reason for this may be that since the rules are industry-specific, appropriate sharp rules can be more easily developed. But another reason is related to the repeat nature of the transactions entered into by these commodity merchants. Relationship-preserving norms and sanctions have developed among these repeat players, and this permits scope for informal commitments between parties. Bernstein (1998) sees the two sets of obligations, formal bright-line rules and informal sanctions, as complementary to each other: the formal contractual rules create a firm and predictable fall-back position, allowing the parties to be freer to experiment with informal adjustments and solutions.⁷⁵

These lessons may seem far removed from the problems that plague water concessions. Yet there is a connection: the parties may have only one contract, but it is a very long one that consists of many transaction episodes, and in that sense, they too are repeat players. Writers on regulation are in constant search of an arrangement that will allow both commitment and sufficient flexibility. One solution may be to rely on sharp formal rules to provide the commitment and on informal, extra-legal influences to achieve needed flexibility. We have alluded to these ideas in Section 4.4.2.

Given the legal advantages of an arbitration award, as opposed to an expert's decision, it might be asked why the expert panel proposed in this paper should not instead be designed as a special arbitration tribunal. The answer is that the industry-specific forms of arbitration that operate in a way that is much different from conventional arbitration are often labelled as arbitration for historical reasons. An extreme example is so-called 'look-sniff' arbitration in which an expert determines, by his own examination, the quality or condition of a commodity, such as coffee or cocoa beans. In substance, this is expert appraisal. But 'the categorisation of this procedure as arbitration is traditional and deeply rooted ...' and 'the courts have not tried to change commercial practice in this respect' (Kendall 1996: 207–08).

In short, even if it could be argued that the expert panel idea might be permitted under the arbitration laws of a particular country, in our view it would not be easy in most jurisdictions to pass it off as a novel form of arbitration without provoking strong resistance from the legal community.

5.5 London Underground PPP Arbiter

An arrangement similar in some ways to the idea of an expert panel as outlined in the present paper is the novel 'PPP Arbiter' set up for the three 30-year service contracts between London Underground Limited (LUL) and private sector companies (Infracos) that will maintain, renew and upgrade parts of the track, stations and rolling stock. The Arbiter's main role – a reactive rather than proactive one (and reflective of the name⁷⁶) – is to reset prices at the periodic review every 7½ years, but only if the parties cannot agree between themselves. The parties might well agree certain elements that enter into the determination of the reset

⁷⁵ (Poppo and Zenger 2002: 708) express this point well in another context: in some circumstances, they say, it appears that 'well-specified contracts may actually promote more cooperative, long-term, trusting exchange relationships' because they 'narrow the domain and severity of risk to which an exchange is exposed and thereby encourage cooperation and trust'.

⁷⁶ The Arbiter is neither a 'regulator' nor an 'arbitrator', and the choice of name was deliberately chosen to help define the role.

prices and then might request the Arbiter to decide only those elements which they cannot agree.

The Arbiter plays a somewhat similar role in extraordinary interim reviews that can be called in certain circumstances.

Other kinds of disputes between the parties are handled by ordinary contractual methods, including interim adjudication, with final recourse being to the courts. The PPP Arbiter can also give non-binding guidance about any matter relating to the PPP agreement, when requested by either party. The directions given by the Arbiter are not subject to appeal, strictly speaking (they are 'final and binding' on the parties), but, given the Arbiter's status and function, they are susceptible to judicial review.

Unlike a conventional utility regulator, the Arbiter plays no role in setting service requirements or in monitoring or enforcing performance.

What is interesting about this concept is that the PPP Arbiter was set up by statute⁷⁷ to deal with matters specified in the PPP agreements. The PPP Arbiter's discretion is more constrained than that of a conventional regulator. Most of the Arbiter's substantive instructions are found in the PPP agreements, which the Arbiter has no power to modify. The Arbiter is told, for instance, that he must take into consideration certain things and must not take into consideration other things. The constraints are much more specific than those in a typical law that sets up a conventional regulator.

For example, the Arbiter is told (with certain qualifications) that he has to accept the prices that result from competitively procured contracts entered into by the Infracos. In contrast, conventional regulators in England have not felt obliged in setting prices to accept the costs resulting from competitive outsourcing. Ofwat (the English water regulator) rejected the idea of using market evidence in determining the costs it allowed for each company at the recent 2004 price review and stated in *Setting water and sewerage price limits for 2005-10*:

Framework and approach:

[W]e are not convinced by the suggestion that competitively tendered costs are efficient costs. The choice of how to deliver its functions is a matter for each company; some might choose in-house mechanisms, some may outsource and others may use a combination of the two. Outsourcing involves many decisions on policies, specification and risk sharing, all of which have cost implications. The market place can be dynamic and using competitive price does not automatically guarantee an efficient outcome. We judge companies by the key test of net outcomes, not by the management or procurement process used to achieve the outcome.

While using competitive prices does not automatically guarantee an efficient outcome because the contracting market may not be competitive or sufficiently developed, it would, however, seem that competitive prices are likely to provide a better guide to efficient levels of costs than Ofwat's own models, which have been the subject of continued criticism by the industry and others.

The language found in the PPP agreements plainly indicates that they were written by parties that are attempting to constrain the discretion of an independent third party and to prevent it from expanding its role over time (a problem we alluded to earlier with conventional

⁷⁷ Greater London Authority Act 1999, sections 225–237.

regulators). For example, the Arbiter is told that he should not base his determination on an assumption that all the Infracos should be able to achieve the financial performance demonstrated by the *best* Infracos, unless there is a good reason for this. It is hard to imagine a conventional regulator proposing to constrain its own discretion in this way by putting words like this in a company licence that the *regulator* writes or proposes.

Although there may be lessons to be learned from the LUL PPP Arbiter in designing the expert panel, in one key respect it is a model that we do not propose to follow. The PPP Arbiter is a personal appointment of the Secretary of State for Transport, the government minister responsible for the transport portfolio. In making his appointment, the Secretary must 'consult such persons as he considers appropriate'. The selection process for the members of the expert panel we are proposing would operate in a very different way to ensure their independence. The method of appointment for the LUL PPP Arbiter, although suitable to the U.K., would drag us back to some of the core problems with conventional regulation as practiced in many developing countries. While the PPP Arbiter offers a solution in the U.K. context that deals with the problems cited in Section 2.5 in terms of constraining regulatory discretion (and preventing it from expanding its role over time) and maintaining independence from short-term political influences, in the developing country context creating true independence, in particular, is likely to be a problem.

5.6 Expert panels for water concessions

Expert panels of one sort or another have begun to be included in water services concession arrangements in some countries. In the paragraphs below, we will ignore the panels that have a merely advisory function, without binding effect. They can play a useful role in some circumstances, but they are too far removed from the topic of the present paper.

5.6.1 Chile

In Chile, if the water regulator and a water company cannot reach agreement on the outcome of a periodic tariff review, every five years, the case is referred to a three-member expert commission (*comisión de expertos*), made up generally of economists or engineers. One member is named by the regulator, one by the company and the third is selected by the regulator from a pre-established list of five that has been agreed between the parties at the beginning of the process. The decision of the expert commission is final. Although the mechanism is different from what is being proposed in the present paper, there are certain similarities that warrant a more detailed description.

The first step is for the regulator to prepare terms of reference (*las bases para la determinación de las fórmulas tarifarias*) for the studies that will be carried out to set tariffs for the next period. Before carrying out the study, the company gives comments on the draft terms of reference and, if the company believes that the final terms of reference are inconsistent with the law, the company can appeal this to the Comptroller General of the Republic (*Contraloría General de la República*).⁷⁸ It is easier to determine whether the terms of reference are consistent with the law in Chile than it would be in many other countries in

⁷⁸ In the Chilean telecom sector, if the company believes that the terms of reference are inconsistent with the law, a similar kind of expert commission can be set up to decide just this issue before moving on with the studies.

which regulators have vague mandates because the law in Chile sets out a well-specified approach to be used in tariff reviews, based on the concept of a ‘model company’ (*empresa modelo*).

After the terms of reference are determined, the regulator and the company each carries out its own study based on the terms of reference. The terms of reference are extremely detailed, running several hundred pages. The Chilean system rigorously breaks down the tariff-setting methodology into highly disaggregated building blocks. The studies generate a set of parameters corresponding to these building blocks. Tariffs are calculated by using these parameters entered into the stipulated formulas.

If the regulator and the company cannot agree on the tariffs, then an expert commission is established, and the commission has 30 days to take its decision, based mainly on the reports and presentations made by the two parties. For *each* parameter, the commission must accept either the value proposed by the company or the value proposed by the regulator. The commission prepares a report justifying its decision for each parameter. This report and the studies are now required to be made public.

The Chilean system is considered to work well. It is acknowledged that improvements could be made and there have been proposals to change the system in some ways. For example, in some cases, it has been observed that the party-nominated members of the commission might have a tendency to act in a partisan manner. It has therefore been suggested that the selection procedure should be changed so that both parties have to agree on all three members. (The proposal in the present paper addresses this potential problem also – see Section 4.3.) Another possible drawback of the present system that has been noted is that, since the system relies on ad hoc commissions, different commissions may use inconsistent criteria from one price review to the next. One way around this problem is to use a permanent commission, a solution that has recently been adopted in the energy sector in Chile. (This issue is addressed in Section 3.2.)

Some aspects of the Chilean system seem to be rooted in local conditions and culture. For example, no one appears to worry that the regulator and the company might not be able to agree, before the studies are carried out, on a short-list of five candidates from which the regulator will select the third member if the expert commission is needed. In the context of other countries, one might not be able to take this for granted – especially if the water company is controlled by foreigners. (The method proposed in the present paper considers that a respected appointing authority is essential if the system is to work well.)

The Chilean system has a number of characteristics that give support to the approach proposed in this paper – e.g.:

- The expert commission does not attempt to carry out all the functions of a conventional regulator. Its job is to perform one function in accordance with well-defined rules. Its scope of activities is limited to tariff reviews and it must use the precisely specified and detailed methodology in the terms of reference that have been established by the regulator, some of which is specified in detail at an even higher level, namely in primary and secondary legislation.⁷⁹

⁷⁹ For example, the method of determining the cost of capital.

- This means that the expert commission does not become involved in policy, or quasi-policy, matters:
 - It is not its task to review service standards or affordability concerns.
 - It is not its business, in calculating the cost of capital, to decide how to determine the risk-free rate or whether or not to use, say, the capital asset pricing model in determining the risk premium.
 - The difficult issue of what the trade-off should be between short-term gains to customers (by way of rent extraction from the companies) and long-term gains (by way of stronger incentives for productive efficiency) is rigidly fixed by the model-company approach that has been established by law.

5.6.2 Bucharest

In Bucharest, Romania, water and wastewater services are provided by a private sector concessionaire, majority owned by the French company Veolia. The 25-year concession contract was signed with the municipality in 1998, and the concessionaire took over operations in November 2000.

Levels of service and required investments are monitored by the ‘Technical Regulator’, ARBAC, an agency subordinated to the municipality. The main tariff-setting roles are played by an Expert Panel and the economic regulator, at present the National Regulator for Municipal Services (ANRSC), an autonomous body.

The terms governing the procedure and methodology for tariff adjustments are contained in the concession agreement, which binds the two contracting parties. These terms are also incorporated in a government ordinance, which governs the conduct of the economic regulator in this respect.

The three-member Expert Panel comprises a water sector engineer-expert, financial analyst and economic regulatory expert. The names of the three members are agreed between the municipality and the concessionaire. If the two parties cannot agree, the International Centre of Expertise of the ICC will serve as the appointing authority in accordance with the ICC’s Rules for Expertise. The three current members are those appointed at the start by agreement between the parties.

The Expert Panel members are appointed for a period of five years, and their terms are renewable. The members cannot be nationals of Romania or the investor’s home country. The Expert Panel is responsible for developing rules for its own internal conduct and procedures. Decisions of the Expert Panel concerning tariff adjustments are binding and final with respect to the parties to the concession contract.

Under the concession contract, there are three main types of tariff adjustment. Ordinary tariff adjustments are based on an indexation formula; the Expert Panel is not involved in these. The Expert Panel plays a role in the other two main types.

Extraordinary tariff adjustments are designed to compensate, on an incremental basis, for the effects of specified events. The Expert Panel reviews the concessionaire’s calculations and then submits its recommendation to ANRSC. ARBAC receives copies of the concessionaire’s documentation and the report of the Expert Panel.

Periodic reviews take place every five years. The Expert Panel begins the process by issuing guidelines to the concessionaire for the preparation of its business plan. The Expert Panel then reviews the concessionaire's business plan and proposed tariffs, in line with the methodology set out in the concession contract, and submits its recommendations to ANRSC.

For both types of adjustment, ANRSC must approve the recommendations of the Expert Panel unless there have been 'substantial failures to follow the procedure and methodology' set out in the concession agreement, to which ANRSC is statutorily bound in this respect. An important aspect of the rules is that ANRSC must take its decisions based only on the report submitted and procedures followed by the Expert Panel, without regard to any opinions expressed by the concessionaire or the municipality, although ANRSC can and has at times asked the concessionaire for clarifications.

The three members of the Expert Panel carry out the review themselves, without engaging consultants to assist them.

Since the start of the operations in November 2000, there have been 11 extraordinary tariff adjustments, dealing with a variety of issues (change in law, change in volume of water, special adjustments related to start-up, etc.). In all of the reviews so far, the economic regulator has either approved the recommendations of the Expert Panel or has required only minor adjustments, which the concessionaire has not contested. The first periodic review – the real test of how well the system works – will take place at the end of 2005.

In addition to being involved in the Panel in reviewing tariff adjustments, the members of the Expert Panel can play the role of facilitator or mediator between the parties for certain issues specified in the contract. This function has been used a number of times and has proved to be of considerable benefit.

One noteworthy feature of the initial set-up should be mentioned. At the time the concession contract was signed, ANRSC did not yet exist – it was established in mid-2002 – and the role of the economic regulator was to be played by the national Office of Competition. The Expert Panel was in some sense envisaged as providing support to the Office of Competition in its tariff decisions concerning the Bucharest concession. It is an interesting question whether the government would have agreed to constrain the powers of the economic regulator, in the way they are, if the envisaged body had been a *specialised* economic regulator of municipal services rather than a competition office with a more general mandate.

The fact that ANRSC was set up *after* the signing of the concession contract led to some confusion. The general mandate of ANRSC, under law, includes technical as well as economic and financial aspects. So that means that the concessionaire in effect faces two technical regulators, ARBAC and ANRSC.

The Bucharest arrangement echoes several of the features that are proposed in the present paper – namely:

- limited mandate of the expert panel, focusing on tariff determinations only (except, in Bucharest, for the mediation role of the members);
- unbundling regulatory functions (in the Bucharest arrangement, technical on the one hand and economic and financial on the other);

- limited-scope review of the expert panel’s decisions (in Romania by a government regulatory body and in our proposal by an arbitral tribunal).

It would be good to study the Bucharest experience in more detail in the process of designing a full model of the expert panel mechanism to be used in other concessions.

5.6.3 Sofia⁸⁰

In the Sofia water concession, the final forum for dispute resolution is arbitration held in Sofia under international (UNCITRAL) rules and with an international appointing authority.

It was accepted by the parties that courts and conventional arbitration tribunals are not particularly well suited to deal with disputes that arise in long-term concession contracts, especially when an important aim is to preserve the relationship – they are the nuclear option. The Municipality of Sofia decided to adopt, with some modifications, a model for a concession dispute review board that was being developed at the time by the EBRD, and which was based on the dispute review boards (or dispute adjudication boards) used in the construction industry (see Section 5.2). The Sofia ‘concession dispute resolution board’ (CDRB) was therefore included in the concession agreement as a mandatory step before arbitration.

The CDRB consists of three members who are chosen at the beginning of the concession, before any dispute takes place: a lawyer trained in arbitration and dispute resolution, a technical member, and a financial member. The CDRB members make periodic site visits to keep in touch with developments.

If there is a dispute, the procedures used by the CDRB are informal and the parties’ lawyers play a reduced role. If neither party decides to contest a CDRB decision by going to arbitration within 30 days, the CDRB decision becomes binding on the parties, as if it were a contract amendment. Moreover, the CDRB decision can be admitted as evidence in any subsequent arbitration.

The dispute resolution provisions in the concession agreement also allow the parties to request the non-binding intervention of just the chairperson of the CDRB to help them resolve a dispute before – or as a way of avoiding – submission to the full CDRB. The parties have used this procedure once; the disagreement concerned the proper substantiation of costs incurred by the concessionaire.

The Sofia CDRB may be a useful mechanism for major disputes, but it has not served as a good way to give a rapid resolution to the multitude of smaller issues that have arisen and accumulated. The concession needs such a mechanism so that the parties are forced to resolve issues and then move on, thus preventing lingering disagreements and grudges. One possibility would be an independent technical auditor who would have the power to take binding decisions about any matter concerning the concessionaire’s compliance with the service standards. Another possibility would be to use a single person as an interim adjudicator for all or most types of dispute.

⁸⁰ For a short case study of the Sofia water concession, including a discussion of disputes and dispute resolution mechanisms, see Shugart (2004).

Moreover, although the Sofia CDRB might well be suited to hear *disputes* concerning a comprehensive price review already conducted, it was not designed to carry out a price review itself – proactively managing the process from start to finish. That, among other things, distinguishes it from the mechanism proposed in this paper.

Summary (Section 5)

- ADR mechanisms used in a number of other contexts, including water system concessions, resemble the expert panel proposed in this paper to a greater or lesser extent.
- Their advantages, compared with courts or conventional arbitration, are: the use of specialised experts as the primary decision makers, more informal (less judicial-type) procedures, quicker results and lower cost.
- The detailed design of the expert panel mechanism proposed in this paper should carefully consider the strengths, weaknesses and experiences of these and other related ADR mechanisms.

6. ASSESSMENT OF POSSIBLE OBSTACLES AND DRAWBACKS

6.1 Fundamental objections

6.1.1 Possible objection: Regulators do much more than just set tariffs

One objection that might be raised against the proposal in this paper is that the job of a regulator goes beyond just setting tariffs every few years: regulators have many other important responsibilities.

We have already addressed one part of this objection in Section 2.4. There are some good reasons to think that water services can be regulated by sharp rules to a much greater extent than some other utility services – and hence by ordinary dispute handlers (i.e. those well suited to dealing with contracts). The reasons are related to the natural monopoly nature of the service and to the low chance of fundamental technological changes in water services in the foreseeable future.

Another part of the answer is that in the solution we are proposing, the different regulatory functions are unbundled. Responsibility for setting the entire range of service standards would remain with the appropriate public authorities. The organisation responsible for monitoring the company's performance and bringing formal complaints against the company, and for gathering other information about the service system, would be separate from the expert panel. In the conventional regulatory configuration, these functions – plus the carrying out of the price review – are given to the regulator. In the scheme we propose, the functions are unbundled.

We do not pretend that this is a universal solution. The more likely it is that major adjustments will be needed in ways that are difficult to predict – e.g. a dramatic change in service standards – the more likely it is that a fully-fledged regulator will be needed and the unbundling of regulatory functions will be more difficult. At the other extreme, if a large part of the city is already connected to the service system, the population is fairly stable and the time path of service standards is not likely to change much, the setting would be especially well suited for the proposals made in this paper.

We would expect that even if considerable future expansion of coverage is envisaged, the methods proposed in this report would be applicable, but this would need to be decided on a case-by-case basis.

6.1.2 Possible objection: It is impossible to eliminate the need for policy-related discretion

Another objection – closely related to the previous one – might be that tariff setting necessarily involves policy questions: balancing the interests of different stakeholders is not simply a technical task. How can an ad hoc expert body exercise the policy judgements required for a major regulatory decision? Isn't all regulation inherently political?

The answer to this objection is that, as we envisage it, the expert panel would not make policy decisions. Policy decisions would be carefully separated from the role of the expert panel. This is another aspect of the *unbundling* of regulatory functions.

Defining service standards and the tariff structure (as opposed to tariff level) would, within limits, be the responsibility of the public authority contracting party or other public authorities.

The expert panel would take these policy-related elements as givens. The panel would have a limited but crucial role: to ensure that tariffs are set at the level needed to meet, on a sustainable basis,⁸¹ all the stipulated service standards and requirements – whatever they may be. The main roles of the expert panel would be to determine the costs that the company would be entitled to recover by way of the tariffs and future levels of demand to determine how the recovery of investment and operating costs translates into a tariff profile. Estimating future costs certainly involves professional judgement, but this is discretion mainly of a technical, not policy, nature, even though it involves a great deal of uncertainty.

In effect, the expert panel is the mechanism that ensures that the company will be adequately remunerated so that it can achieve the outputs required of it by the public-sector decision makers. This ensures that decisions about tariffs are made in a way that transparently reveals the consequences to future service levels. If public authorities do not want tariffs to increase as fast as would be needed to bring service levels up to specified standards, then the only way they can accomplish this would be either by requiring a less stringent time-path of service standards or by finding longer-term or subsidised financing. Public authorities should not simply dictate that tariffs will not increase, while espousing the convenient fiction that the company can and must perform according to standards that would be possible only with a higher level of financing.

This means that the tariff review process should allow for iteration.⁸² The public authority might want to revise the stipulated time-path of service standards to make it less stringent

⁸¹ One of the deeply entrenched regulatory principles – which should perhaps be explicitly stated in primary legislation – should be that (taking into account any subsidies) tariffs must, at the very least, be set at a level that will prevent levels of service from deteriorating over time, relative to present levels.

⁸² The idea of iteration between the price adjudicator and the policy maker has also been introduced into the statute setting up the London Underground PPP Arbiter (see Section 5.5). The PPP Arbiter must give London Underground the opportunity to relax the requirements imposed on the companies if it finds that it will not have

only once it learns what tariff level would be implied by its ideal service standards. The process might therefore need to involve the expert panel making preliminary estimates to give the opportunity to the public authority to readjust the required service standards.

The question of policy issues arises in considering the allowed rate of return on capital. Tariff reviews involving future investments require as one of the inputs a value for the allowed rate of return on capital. There are a number of different ways to determine an appropriate rate, some involving more discretion than others. In principle, there is no reason why, in one country, different companies involved in different water concessions having the same risk characteristics and capital structure should have different costs of capital. It would be understandable, therefore, if a country decided that all water companies in the country (or all in a certain category) should be regulated using the same allowed rate of return. The country might therefore require that the expert panels use a certain rate. This might be a rate determined by, say, the country's energy regulator, if that regulator is well equipped to make this determination.

The problem is that, even though the cost of capital is purportedly a technical issue with an objective answer, there is considerable uncertainty in the profession about the precise figures to use: values calculated (for a certain country) by a sample of top world experts would show a considerable spread.⁸³ Explicitly or implicitly, a policy decision must be taken as to where to fix the value within a reasonable range. It probably is not the best solution for an ad hoc expert panel to make this decision. But if a country has not set up another good system for determining the required value, then an expert panel could be given instructions to make the determination. In that case, it would be good to face the issue of uncertainty head on and instruct the panel how they should approach the question of where, within a reasonable range, they should fix the value.

6.1.3 Possible objection: The expert panel cannot deal effectively with unforeseen extreme events

Another fundamental criticism might be that good regulation requires much more flexibility to deal with unanticipated contingencies than can be provided by the periodic comprehensive tariff reviews conducted in accordance with the rules set out in the contract, licence or secondary legislation. In truly extreme circumstances, one cannot rely on an ad hoc panel of external experts to take decisions that have important political consequences. In effect, this criticism says: (i) policy decisions should not be delegated to people outside the government or state; and (ii) policy-laden decisions cannot be as neatly separated from technical questions as envisaged.

It is true that the question of how to deal with truly extreme events is one of the toughest ones for utility regulation in developing countries; this is where regulation often breaks down. But this criticism says no more than that price reviews by expert panels will not solve all the problems that regulation faces. For instance, it might not solve the problem of how to cope

the resources to pay the price that would be required, as determined by the Arbiter (see Greater London Authority Act 1999, section 231(2)).

⁸³ Even in the U.K. the different regulatory bodies in some instances are still using quite different costs of capital for industries that arguably have a similar risk profile. The regulators make no attempt to reconcile these differences by claiming that they are using a consistent methodology but with different variables appropriate to their respective sectors.

with – i.e. who takes the risk of – a massive devaluation of the local currency, where the company has a large amount of foreign currency debt.

The solution to this kind of problem goes beyond the scope of the paper. Our proposal concerns an expert panel with a well-defined and limited role. It should not be the right or responsibility of this expert panel to modify the rules of the PSP arrangement to deal with circumstances that go beyond the kinds and degrees of risks that the rules were designed to deal with. Other kinds of safety valve would have to be built into the arrangements. Ultimately, these tough questions will remain highly political, whether one likes it or not, and the legitimacy of the solutions adopted will depend crucially on fundamental features of public governance in the country.

Summary (Section 6.1)

- One can anticipate several objections to the concept of the expert panel that are based on the argument that an expert panel cannot do all the things that an *ideal* fully-fledged utility regulator could do.
- Rather than view this as a weakness of the expert panel concept, we consider this to be a strength. The goal is to give the expert panel a mandate that is largely technical in nature (technical in the broad sense). Policy-laden decisions are unbundled and retained by appropriate public authorities.
- This means that the expert panel cannot be expected to solve all the problems that arise in regulating water companies. But the role that it would play is a crucial one.

6.2 Validity under different legal systems

Expert determination (using the English term, for convenience) of this kind may not stand on as sure a footing in some legal systems and may be relatively untested. It may not be as clear as in England that a court cannot second guess the expert's decision. There may be an extra-contractual legal requirement that the decision of a third party should be reasonable – an open door for the court to exercise its own judgement. Nevertheless, it appears at first glance that most Western legal systems are generally supportive of contracts that delegate to a third party the responsibility to take binding decisions⁸⁴ – although in further work to develop the expert panel concept, a thorough review of this question should be carried out.

In some countries, the expert might be re-characterised by the courts as an *arbitrator*. This would put the procedure under the arbitration laws of the country where the arbitration takes place (the 'seat' of the arbitration). This might well require a more formal procedure.

Another kind of problem might arise if the country's laws do not allow the public authority to transfer to another entity the power to set water tariffs. In other words, it might be acceptable

⁸⁴ As in indication of the general tendency, the UNIDROIT Principles state that the fact that the parties 'intentionally leave a term ... to be determined by a third person does not prevent a contract from coming into existence' (Art. 2.14). The Principles of European Contract Law add that a term fixed by a third person cannot be 'grossly unreasonable' (Art. 6:106), but the Comment goes on to clarify that this refers to cases where the error is 'manifestly unreasonable, such as a clear mistake of arithmetic or a grossly wrong valuation.'

under law for the public entity to agree to *specific* long-term tariffs in a concession agreement but unacceptable for it to delegate to an expert panel the discretionary power to reset tariffs at periodic intervals.⁸⁵

Questions of the kind mentioned in this section would need to be carefully examined by local lawyers before a system involving expert panels should be established in a particular city or country. But these legal objections pertain to an expert determination mechanism set up by simple agreement between the parties in a contract. If a special regime involving an expert panel were enacted by legislation, that would put it on a completely different and more solid footing.

On the other hand, a number of potential obstacles relating to expert determination in a general sense – drawbacks sometimes cited by legal commentators – would not apply to the way we contemplate using an expert panel. For example:

- *An expert does not have the coercive power of a court or arbitrator.* An expert cannot, for example, compel the production of documents by a party. This may be a drawback if there is already a dispute, but the expert panel we envisage will be deciding a set of technical issues. The information needed to carry out the review is well defined and most, if not all, will already be the common knowledge of the parties. An information gathering (and auditing) system set up under the PSP arrangement will have collected and organised the relevant information, accessible to both parties, during the period before the tariff review.
- *It may not always be clear that an expert can determine his own substantive jurisdiction.* This can be a problem especially when the scope of an adjudicator's review covers only certain matters arising under the contract. The question can then be: Who decides a dispute over whether the particular adjudicator can decide a specific matter? Suppose the contract said only that all 'predominantly technical questions' would be decided by a specified expert, with all other disputes going directly to arbitration (a formulation not to be recommended). There could be considerable debate over how to draw the boundaries.

In the way we envisage use of the expert panel, it is clear when the panel would come into operation: there would be a 'comprehensive tariff review', carefully defined in the contract. Insofar as the reviews would take place strictly every so many years, there would be little room for dispute. Particular attention will have to be given to specifying the other conditions under which a comprehensive tariff review could be triggered to ensure that they are as sharp as can be. If the trigger events involve purely factual determinations (e.g. a change of more than X % in the number of customers), it must be made clear that the expert panel has the right to decide whether this condition has been met.

- *It is not always clear that an expert can decide questions of law, and in any case, this is probably not desirable.* There can be difficult questions about whether an expert who is not a legal specialist should be able to give a final decision that involves a question of law. In recent writings about concession contracts, there has been a

⁸⁵ But in some countries, it might be valid for the public authority to agree to make payments to the water company if it decided to set actual tariffs lower than the 'reference tariffs' determined by the expert panel.

growing reference to the use of various kinds of experts and expert bodies to resolve disputes. Often little concern is given to the question of whether the type of dispute might involve questions of law. If questions of law are involved, then use of an expert body that does not involve lawyers or other members who have adequate experience interpreting contracts could result in decisions that diverge widely from the expectations of the parties when they signed the contract, their expectations having been shaped, at least in part, by their lawyers' advice.

Some tariff adjustments could involve questions of law, including difficult questions of contract interpretation. For example, in a tariff adjustment that involves a 'discriminatory change in law' (where this is defined in the contract), an important question will be whether the facts qualify as such a change in law. This may involve tricky legal issues that go beyond the competence of an economic or technical expert.

There are several reasons why this potential problem is minimised in the proposal made in this paper. First, the matters that the expert panel will deal with are not expected to include questions of law to any significant extent.⁸⁶ Second, the panel will have to be experienced in contract interpretation. Third, the rules applying to tariff reviews should be drafted in a way that takes into consideration that the expert panel, and not lawyers, will be reading and interpreting them – e.g. legal terms of art should be avoided or clearly defined in ordinary language. Fourth, the panel can engage a legal expert (e.g. local counsel) as a consultant to advise them if need be. And finally, we have envisaged a limited-scope 'appeal' to arbitration (see Section 4.5), and one of the grounds for appeal would be a serious error of law.

In connection with the last point above, drafting the rules governing the activities of the expert panel will need to address the question of how the expert panel should deal with unresolved disputes that arose in the period before the price review that could have an effect on the final tariff level. Part of this will be a question of sequencing: Should the comprehensive tariff review be suspended until the separate tariff-related dispute is resolved by the normal dispute procedures, or should the expert panel issue several conditional decisions, each based on an assumption that the dispute will be resolved in a certain way? Alternatively, it could be required that an interim adjudicator deal with all unresolved disputes before the expert review takes place. These are questions of detailed institutional design that go beyond the scope of this paper. They are mentioned simply to highlight the care that must be taken – and the need for specialised dispute-resolution expertise – in crafting the arrangements.

Summary (Section 6.2)

- The feasibility of the expert panel mechanism depends to a large extent on the degree to which the courts of a country will refrain from interfering with the decision of the panel, except in cases of fraud or other kinds of gross abuse. Countries differ in this respect, and a detailed country-specific analysis would be needed before proposing such a system in a particular country.

⁸⁶ There is a peculiarity in common law systems in that the determination of the legal effect of contract provisions (their 'construction') is considered to be a question of law, not fact. So determining the meaning of the contractual rules governing the tariff review may be considered to be a question of law or, more likely, a mixed question of law and fact. Irrespective of this technicality, the underlying issue is addressed in the points in the main text following this footnote reference.

- One problem is that the question may not have been settled conclusively in a country that does not have much experience with such systems. This would add to the legal risk involved in the PSP arrangement.
- Several potential drawbacks of using experts to resolve contractual disputes would not apply (or not apply to the same extent) in the case of using an expert panel for the more limited task of carrying out price reviews.

6.3 Assessment of the expert panel and the question of legitimacy

In Section 2.5 we introduced the notion of regulatory legitimacy. One of the hopes for intensive PSP – as in a long-term concession contract – was that it could substitute for the weak public sector institutions and organisations in a developing country and create what could be called *islands of good governance*. The problem is that PSP does not exist in a vacuum: problems of weak public sector governance can come back to haunt the PSP arrangement. Someone has to oversee the private sector company, and this entity is usually a public one. Even when the monitoring body or adjudicating body is a private entity, as envisaged here, the problem of public sector governance does not disappear. One might be able to create a hermetically sealed system, isolated from the weak institutions of the municipality or national government. Then the problem, however, will be whether the decisions of the expert panel will ultimately be accepted by the public authorities. A robust system cannot be designed with only the force of legal enforcement as a coercive sanction; the decisions, on the whole and over the long run, have to be accepted by influential stakeholders as legitimate.

The main problems in the case of expert panels are: first, to design them in such a way that public authorities will accept including them in the regulatory arrangements in the first place; and second, to reduce the chance that the public authority will ignore or act contrary to the decisions of the panel, effectively breaching the concession contract or contravening the licence rules.

This is an area where a good deal more thinking will have to go into the concept. The problem is that there is no simple answer to the ingredients that result in a sense of legitimacy. Legitimacy, to a large degree, is in the eyes of the beholder. And it is certainly culturally conditioned to some extent.

Nevertheless, there is an important sense in which the question of legitimacy might be less problematic for the expert panel. Since the mechanism is designed to remove, as much as possible, policy-laden aspects and leave the expert panel with mainly technical issues, it may be easier for it to achieve legitimacy. That puts a greater onus on the public authority to strengthen its own legitimacy in this regard, but perhaps that is the way it *should* be.

As discussed in Section 2.5, Baldwin and Cave (1999: 78–85) set out five factors that contribute to the legitimacy of a regulatory regime. Table 1 describes how the proposed expert panel measures up based on these factors.

There are additional considerations in the case of the expert panel. An important question can be the nationality of the members of an expert panel. In the model typically used in good-practice international arbitration, if the water company is controlled by foreigners, the experts should not have the nationality of either of the parties. This may need to be rethought

in the context of the proposed expert panel. How will tariff decisions be perceived if they are decided by three foreigners? And for small and medium towns, the cost of using foreign experts may be prohibitive – but perhaps not, if enough towns are included in one scheme.

Depending on the country, there may well be local experts with sufficient competence and integrity. The problem for the appointing authority is to know who they are, and for the company, if controlled by foreign shareholders, to have confidence in them. The problem of legitimacy may now switch so that it is the private company that refuses to accept the results.

There is certainly one important lesson. The mechanism must not simply be imposed on a public authority as a condition of receiving financial assistance. A serious effort must be made to understand whether the mechanism will genuinely be accepted by the concerned public authorities. Otherwise, conflict is only being pushed off to the future.

In Section 2.5, we also set out more specific, intermediate criteria related to the critical problems associated with the use of conventional economic regulators, namely:

- independence from short-term political influences;
- constraints on the discretion of the regulatory body; and
- constraints on regulator's ability to increase its role over time.

Table 2 describes how the proposed expert panel stacks up based on these factors.

Summary (Section 6.3)

- There is no easy answer to what the ingredients are that cause a regulatory regime to be accepted by all major stakeholders – to be considered *legitimate*.
- The expert panel idea has a number of features that would be expected to buttress its potential legitimacy.
- On the negative side, the fact that the panel members are outside the government or state could, in some circumstances, undermine their legitimacy; but in other circumstances this fact might strengthen it. The analysis will have to be country-specific.

Table 1. Assessing the legitimacy of the expert panel

Claim to legitimacy*	Proposed expert panel
<i>Legislative mandate</i> (Does the regulator comply with the governing rules?)	<p>The expert panel scores high on this factor. This is not the case of a conventional regulator with a vague mandate involving multiple social objectives. The expert panel will be strictly rule driven.</p> <p>A second-order question is whether the rules themselves are perceived as legitimate. This will surely depend to some extent on how they were developed and approved. It is at this stage that there needs to be sufficient openness and discussion with stakeholders. Broad alignment with the interests of influential political interests in the country is the key to success, but this is something going far beyond the attributes of the expert panel.</p>
<i>Accountability or control</i>	<p>There are three main ways that the expert panel is accountable. First (in the sense of having to account for its actions), the report prepared by the panel must give an explanation of its decisions in terms of the regulatory rules and the facts. Second, there would be a limited appeal of its decisions. Third, the parties can decide not to renew the appointment of a member if they are not satisfied.</p> <p>The last point is crucial. The expert panel does not have an entrenched monopoly; their position is contestable. If both parties are deeply unhappy with their performance, they can be dismissed. This creates a strong incentive for the panel members to carry out their mandate responsibly.</p>
<i>Due process</i>	<p>Procedural fairness is considered to be an important aspect of legitimacy. Without trying to reproduce the formality of the procedures of litigation or arbitration, the procedural rules governing the expert panel would ensure that the parties are treated fairly and that both parties have a sufficient opportunity to have their points of view heard and considered. As for the openness of the proceedings, see the discussion in Section 4.4.1.</p> <p>Given the contestability of the expert panel's position, the procedural rules do not need to be detailed and legalistic: once again, it is in the interest of the panel members to be seen to be carrying out their work in a way that is fair to both parties.</p>
<i>Expertise</i>	<p>This is certainly a strong point for the expert panel and one of the very reasons for its existence. Given the scarcity of expertise for this type of work, particularly in developing countries, the expert panel offers strong advantages.</p>
<i>Efficiency</i> (Both (a) administrative efficiency and (b) the economic efficiency of the outcome.)	<p>(a) Regardless of whether the panel is standing or ad hoc, it will be efficiently designed for one particular purpose and will not be a sprawling (and expanding) regulator with a raft of different objectives and functions. As discussed in Section 4.6, there will be considerable costs associated with the panel. All things considered, however, the expert panel is likely to be a cost-effective alternative to the use of an independent regulatory body.</p> <p>(b) The economic efficiency of the outcome will depend on the formulation of the rules and on the competence and sound judgement of the panel. There is no reason to think that an expert panel would perform any less well than an ideal fully-fledged regulator on this count, and given that credible commitment is considered to be an important ingredient for maximizing the gains from regulation, the expert panel is likely to perform better in this respect than many real-world regulators in developing countries.</p>

* The bold headings in this column are taken from Baldwin and Cave (1999: 85).

Table 2. Assessing the expert panel in terms of independence and discretion

Criteria	Proposed expert panel
<i>Independence</i>	The expert panel scores high on this factor. The expert panel members will have limited vested interests and should on the whole be immune to political pressures (e.g. concerning tariff levels). Of critical importance, of course, would be the appointing authority for the experts and the arrangements for remuneration. ⁸⁷
<i>Constraints on discretion</i>	Again the expert panel scores high in this regard. The discretion of the panel can be constrained to deal with a narrow set of problems using a narrow set of methods and only by seeking the agreement of the parties would they be able to change the scope of their work.
<i>Constraints on creeping powers</i>	Because the expert panel would be put in place to deal specifically with tariff reviews, one distinct advantage is the fact that their role would not expand over time. If a regulatory agency were in place as well as the panel, the use of the panel might also help to constrain the growth of the regulator's role over time.

7. WHY THE IDEA HAS NOT BEEN USED MORE OFTEN FOR WATER SERVICES

One question is why the idea of expert panels for this purpose has not been used more often in the case of water service contracts. It is true that in some countries, there may be legal problems in using this method, but in many countries they are not insuperable. There are several possible answers.

First, it has often been thought that good-faith renegotiations between the parties, backed up by courts or conventional arbitral tribunals, are sufficient for a long-term concession contract (and perhaps the large international PSP operators have had a strong influence on this thinking). But experience has shown that renegotiations often result in outcomes that depend more on relative bargaining strength than on sound considerations of public policy, and international arbitration is too costly and time-consuming and may not be appropriate for all kinds of disputes.

Second, the methods for selecting experts have often not instilled much confidence. Sometimes the public authority has too strong an influence over the selection. Or if the usual tripartite method is used (each party selects one expert and then these two select the third), the third expert often ends up in the position of having to mediate between two highly partisan party-selected members.

Third, advisors and development agencies have often simply presumed that there is a need to create a fully-fledged independent regulatory agency, taking a cue from the U.K. or U.S. experiences – and thinking of network utilities in general.

⁸⁷ The experience of one of the authors (Ballance) in undertaking the water charge rebasing in Jakarta and the contract renegotiations in Dar es Salaam supports this point: the independence of the expert was never called into question, and pressures from various parties were able to be withstood.

Fourth, it is difficult in the context of just one transaction to justify the cost of developing the needed rules and procedures for a well-designed system and the search costs for good candidate experts, and so countries and their advisors tend to rely on off-the-shelf mechanisms.

A final reason for the reluctance to use binding expert panels may be that some governments are resistant to give up their discretionary power to decide tariffs on political grounds, something they can often continue to do through informal influence over regulatory bodies. Using expert panels could bring more independence to regulatory decisions than using the Ofwat-type solution, where the scope for political interference is still great. But this reason had an upside, too: genuine willingness to be bound by the decision of a non-governmental expert body could serve as a strong signal of the government's commitment to good principles of regulation.

8. CONCLUSION AND NEXT STEPS

When PSP was first considered in the context of water and wastewater services in developing countries in the early 1980s, it was widely believed that long-term concession contracts provided the answer, that all needed regulatory rules could be contained in the contract and that any disputes could be adjudicated by the dispute resolution procedures used for ordinary commercial contracts – namely, courts or conventional arbitration. In the next phase of thinking, beginning in the early 1990s, the idea that a conventional utility regulator would be needed began to take hold.

This paper argues that these two solutions – while suitable in some circumstances – often show considerable weaknesses in the context of developing countries and that another type of solution, that of a specially constituted expert panel, may offer advantages worth considering.

Seen in a broader perspective, it should not come as a surprise that there should be more than one type of solution to the regulatory puzzle. The economist Oliver Williamson (1991) has referred to the various kinds of optimal 'hybrid' governance modes that exist between spot transactions or short-term contracts, on the one hand, and complete vertical integration ('hierarchy' in Williamson's terminology), on the other. The regulation of utility services fits this framework well. It is likely that optimal regulatory configurations will range from those that more closely resemble the contracting solution to those that resemble the extreme solution of vertical integration (i.e. public ownership). Seen in this perspective, the stereotyped *independent regulatory agency*, as it has been conceived during the past 20 years, is only one point on a continuum of possibilities.

Chris Bolt (2003: 24), the Arbiter for the London Underground PPP contracts (see Section 5.5) put it this way: 'The London Underground PPP therefore sits between the two current models, and has tried to learn from the experiences with both. So might this be the start of a new chapter in the history of infrastructure funding and "regulation"?'

The idea of 'expert panels' is often introduced casually into discussions these days about how to regulate water services. The purpose of this paper has been to begin to develop the concept in a more rigorous way. But the concept remains just a skeleton; it needs to be fleshed out and then implemented on a trial basis by a city or country that finds its merits appealing.

The three main tasks needed to get such a system off the ground are the following:

- Develop a complete set of rules and guidelines – both substantive and procedural – for the establishment of the expert panel and the conduct of a comprehensive price review, and for how the expert panel mechanism would fit into the rest of the PSP arrangement.
- Select – or create – an appropriate appointing authority and pre-qualify the experts for the first expert panels.
- Find a country or several cities that would like to try out the mechanism on a pilot basis.

There are economies of scale in this endeavour: it is unlikely that the needed resources to lay the groundwork will be forthcoming from (or on behalf of) any one city or even country. In consequence, the effort needs to be given strong support by an interested multilateral or bilateral development organisation or industry association.

**Example of Procedure for Appointing Three Experts,
Each with Different Specialist Knowledge**

(Taken from the procedures in the Sofia water concession agreement, 1999.)

- (1) The Appointing Authority shall maintain a list of qualified candidates to serve as members of the CDRB [*Concession Dispute Resolution Board*], with a sufficient number of candidates qualified in each of the three (3) professional areas described in section [...]. Candidates may be identified by the Appointing Authority or proposed to the Appointing Authority by any interested person. The Appointing Authority shall have full authority to accept or reject proposed candidates for inclusion on lists of potential candidates, based on the desired qualifications set forth in section [...].
- (2) No later than [*specified date*], the Appointing Authority (having previously confirmed that these candidates will be available) shall provide each Party with three (3) identical lists, each containing the names and curricula vitae of at least six (6) candidates in each of the three (3) professional areas described in section [...].
- (3) The Appointing Authority shall include in the lists of candidates provided to the Parties pursuant to section [(2)] the names of any candidates agreed by the Parties and jointly proposed in writing to the Appointing Authority, provided that:
 - (a) such candidates are proposed in writing to the Appointing Authority no later than [...]; and
 - (b) the Appointing Authority determines in its absolute discretion that such candidates meet the qualification requirements set forth in section [...].
- (4) Each Party may strike out up to two (2) names on each list without giving any reason or justification. Additional names may be struck out from each list only if the Party gives a written reason as to why the name is being stricken (for example, the candidate has a relationship with a Party that is prohibited by the provisions of section [...]).
- (5) For each of the three (3) lists, each Party shall assign to each name remaining on the list a whole number ('ranking number') representing an order of preference, where the ranking number one (1) designates the highest preference, the other ranking numbers follow consecutively and no ranking number is used more than once.
- (6) Within ten (10) days after receipt of these lists, each Party shall return all three (3) lists to the Appointing Authority with names stricken as indicated in section [(4)] and the ranking number indicated for each candidate whose name remains on a list. If a Party does not return a list within the time specified, all candidates named on the list will be deemed to be equally acceptable for that Party and will be assigned a ranking number of one (1).
- (7) The Appointing Authority shall determine in its discretion whether the striking of a name by a Party for a specified reason is justified. If the Appointing Authority determines that striking the name is not justified, then that candidate shall be retained on that Party's list and assigned a ranking number that is one integer higher than the number assigned by the Party to its least preferred candidate. If more than one candidate on a list is so considered by the Appointing Authority, then all such candidates shall be given the same highest number (in other words, for the avoidance of doubt, the same lowest ranking).
- (8) For each list and for each party, the Appointing Authority shall re-number the retained candidates using consecutive numbers beginning with the number one (1) and without changing the ranking order given by the Party. The Appointing Authority shall select one CDRB member from each of the three (3) lists; and the CDRB member who is selected

from the list of candidates for Chairperson shall be appointed as Chairperson. The member selected in each case shall be the candidate whose name is not stricken from the list by either Party (subject to section [(7)]) and which has the highest combined order of preference, determined by adding together the ranking numbers assigned by each party for each candidate (after any re-numbering by the Appointing Authority pursuant to this section [(8)]). If two (2) or more candidates on a list have the same highest combined order of preference ('tied candidates'), the Appointing Authority shall multiply together the two ranking numbers for each of the tied candidates to yield a product for each tied candidate and shall select the tied candidate with the highest product.⁸⁸ If two (2) tied candidates on a list have the same highest product, the Appointing Authority in its absolute discretion shall select the one that the Appointing Authority considers best qualified. If a selected CDRB member declines to accept his appointment, the Appointing Authority shall select the next highest ranked candidate from that list; and this process shall continue until a CDRB member so selected accepts appointment.

⁸⁸ This rule disfavors candidates who receive divergent rankings by the two parties: e.g. a candidate who receives a ranking of {4,4} would be preferred to one that receives a ranking of {3,5}, even though the sum of the ranking numbers in each instance is 8.

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